INLAND WETLAND & WATERSOURCES COMMISSION
TUESDAY, DECEMBER 15, 2009 – 7:00 PM

REGULAR MEETING @ 7:00 pm

PUBLIC HEARING, if applicable @ 7:30 PM

COUNCIL CHAMBERS

ENFIELD TOWN HALL
820 ENFIELD STREET
ENFIELD, CT

INFORMATION PACKET

AGENDA
MEETING OF THE
ENFIELD INLAND WETLANDS AND WATERCOURSES AGENCY
TUESDAY, December 15, 2009 – **7:00 pm**
REGULAR MEETING
*****Council Chambers*****
********* ENFIELD TOWN HALL *********
*** 820 ENFIELD STREET***
** ENFIELD, CT 06082 **

REGULAR MEETING

1. Call to Order
2. Roll Call
3. Pledge of Allegiance
4. Executive Session

(Matters regarding specific employees, pending litigation, acquisition of real estate and / or matters exempt from disclosure requirements)

5. Public Hearing
   a. **IW-533 – Town of Enfield** – is requesting a permit to reconstruct Post Office Road and Town Farm Road beginning on Post Office Road, 175-feet west of Raffia Road and ending on Town Farm Road, 150-feet east of Abbe Road within the regulated area (Map 86 Lots:169, 155, 293, 293, 158, 150, 167; Map 71, Lots: 1, 25, 27; Map 68, Lots: 161, 164, 153, 151, 152, 197). Submitted 11/23/09, received 12/01/09, PPE 12/15/09, **MAD 2/4/10**.
6. Call to Order of Regular Meeting
7. Public Participation - Issues of concern not on the agenda
8. Correspondence
   a. Article - Commission May Require Bond to Ensure Proposed Farming Activity Will Take Place
   b. Article - Consideration of Wildlife by Wetlands Agencies
   c. Historic Town Attorney Correspondence – See Section 9.3
   d. Article – Here Today, Gone Tomorrow? Connecticut's Vernal Pools
9. Commissioner's Correspondence
   a. Site Visit Updates
10. Approval of Minutes –December 1, 2009 & December 3, 2009
11. Wetlands Agent Report
12. Old Business
13. New Business
14. New Applications to be Received

15. Other Business

   a. IWWA Fines Ordinance

   b. IWWA Fee Schedule

   c. IWWA Regulation Revisions

   d. **Next regular meeting is Tuesday, January 5, 2009 at 7:00PM in the Council Chambers.**

16. Adjourn

Acronym Key for Dates:

Submitted	= Day it was Logged in by the Appropriate Town Office.
Rec'ed	= Received (Date of First Regular Meeting after the day of submission or 35 days, which ever is sooner)
PPE	= Petition Period Ends (14 Days from Receipt)
MAD	= Mandatory Action Date (65 Days from Receipt)
EMAD	= Extended Mandatory Action Date (Any combination up to 65 days from original MAD)
MPHCD	= Mandatory Public Hearing Closing Date (35 Days from opening of the public hearing)
EMPHCD	= Extended Mandatory Public Hearing Closing Date (Any combination up to 65 Days from first MPHCD)
MPHAD	= Mandatory Public Hearing Action Date (35 Days after close of the public hearing)
EMPHAD	= Extended Mandatory Public Hearing Action Date (Any combination up to 65 Days from first MPHAD)

*Applicant can consent to extend the time frame for any of the steps but the total of all extensions together cannot exceed 65 days

PUBLIC HEARINGS

Bednaz, Katie

From: Jeffrey Lemay [JLemay@maguiregroup.com]
Sent: Wednesday, December 02, 2009 12:44 PM
To: Bednaz, Katie
Subject: RE: 48-186 Reconstruction of Post Office/Town Farm Road

Hi Katie,

Hopefully the meeting last night went as well as expected, and I hope I didn't ramble on too much about the drainage. I just wanted to let everyone know that the drainage has been designed and re-designed with extensive coordination with ConnDOT Environmental Planning and CTDEP.

The reason for this email is to clarify some information in the November 18, 2009 ART Report. Under the Maguire Group section (third bullet from the bottom), it states that "New drainage pattern will impact well". The design will actually improve the well by redirecting the cross culvert discharge and roadway draiange away from the well. Currently, the water from both of these discharges ponds on the property in the vicinity of the well. Also, in the Water Company section (4th bullet down), it states that "new drainage will flow toward well". As stated above, the project design has eliminated the discharge of water from the cross culvert and roadway toward the well. The design has been developed with input from the water company and the town currently has a Change in Use permit through the Connecticut Department of Public Health. I don't think these statements will be a problem, I just wanted to respond to them in the event someone questions why the project is impacting a public well.

Please give me a call if you have any questions.

Thanks,
Jeff

Maguire Group Inc.

Jeffrey D. LeMay
Senior Engineer
Phone - 860 . 224 . 9141, Ext. 319
Fax - 860 . 224 . 9147
jlemay@maguiregroup.com
One Court Street
New Britain, CT 06051

From: Bednaz, Katie [mailto:kbednaz@enfield.org]
Sent: Wednesday, December 02, 2009 10:45 AM
To: Jane Witherell
Cc: Jeffrey Lemay; David Stock; Hawkes, Piya
Subject: RE: 48-186 Reconstruction of Post Office/Town Farm Road

Thanks Jane. Will do.

Katie Bednaz
Certified PWS & Registered Soil Scientist

12/2/2009

Assistant Planner / Wetlands Agent
Enfield Town Hall
820 Enfield Street
Enfield, CT 06082

Phone: (860) 253-6358
Fax: (860) 253-4729

From: Jane Witherell [mailto:JWitherell@maguiregroup.com]
Sent: Wednesday, December 02, 2009 10:36 AM
To: Bednaz, Katie
Cc: Jeffrey Lemay; David Stock; Hawkes, Piya
Subject: 48-186 Reconstruction of Post Office/Town Farm Road

Katie,

Attached is a PDF showing the Invasive Species Delineation that we said we would provide last night. We tried to downloaded to the Town's FTP site but were unable to access the site. Could you please put the map on the Town's FTP site.

Thank you,
Jane

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CORRESPONDENCE

Commission May Require Bond to Ensure Proposed Farming Activity Will Take Place

by Patty Salkin, lawoftheland.wordpress.com

In 2004, Deojay purchased property containing an abandoned house, farm debris, overgrowth, and wetlands. In November, he filed an application for a certificate of compliance with the Town noting that there were wetlands or watercourses on the property and he indicated that he intended to use the property for residential use. Finding that a drainage ditch had been dug in the wetlands portion of the property, Deojay was cited for violating regulations that require a permit. Although he applied for a permit in August 2005, he continued to clear the property, including removing trees. His application was denied in October 2005, and following a determination by the town planner that more trees were being cut, a cease and desist order was issued in January 2006. Although Deojay argued that the property was exempt and the order should be lifted because the property was in agricultural use, the Commission upheld the cease and desist order.

In July 2006, the town initiated an enforcement action against the Deojay. The next month, Deojay filed a second application to construct an agricultural pond, to plant blueberries, to construct a driveway within 100 feet of the wetlands, as well as to build a house with a well and septic. The Commission approved this second application in September with the condition that the owners post an $8,000 bond to ensure that the proposed farming activity would actually take place. The owners never posted the bond.

With respect to the enforcement action (decided a year later), the trial court concluded that Deojay had willfully violated the cease and desist order and imposed a $10,000 fine with costs, expert witness fees, and attorney fees. The appeals court affirmed, noting "[t]he aesthetic pleasure that results from the transformation of a neglected piece of property into a blueberry farm cannot override the requirements of the state and local zoning regulations." Although Deojay has claimed that their agricultural use was exempt from the regulations, the Court noted that the regulations require an application to be submitted to the commission for a determination on whether the activity is exempt. Deojay failed to make this application, so without a determination by the Commission as to this issue, it was not properly before the Court for review. The Court also upheld the order of the trial court enjoining the owners from continued activity on the property or imposing the $10,000 fine.

The appeals court affirmed, noting "[t]he aesthetic pleasure that results from the transformation of a neglected piece of property into a blueberry farm cannot override the requirements of the state and local zoning regulations."

Lastly, Deojay argued that the Commission did not have authority to require an $8,000 bond, but the court disagreed, citing Gen. Stat. 22a-42a which "gives the commission wide latitude to condition a permit approval on certain actions by the permittee to mitigate the impacts of the regulated activity." In this case, the commission was "unwilling to take [the owners'] word at that juncture that they would be using their property for farming."

Resources

Town of Canterbury v. Deojay, 2009 WL 1497097 (Ct. App. Ct. 6/2/2009). The opinion can be accessed at: www.jud.ct.gov/external/supapp/Cases/AROap/AP114/114AP304.pdf

Patricia E. Salkin, Esq. is the Raymond and Ella Smith Distinguished Professor of Law, Associate Dean and Director of the Government Law Center of Albany Law School.

Consideration of Wildlife by Wetlands Agencies —— Five Years Later ——

In the October, 2003 the Connecticut Supreme Court issued its decision in AvalonBay Communities, Inc. v. Inland Wetlands Commission, 266 Conn. 150 (2003), in which it concluded that the inland wetlands and watercourses act "protects the physical characteristics of wetlands and watercourses and not the wildlife, including wetlands obligate species, or biodiversity."[1] In a footnote the Court provided for consideration of wildlife in exceptional cases: "There may be an extreme case where a loss of or negative impact on a wildlife species might have a negative consequential effect on the physical characteristics of a wetland or watercourse . . ."[2] Hot off the press, this decision was subject of a workshop at the November 2003 CACIWC annual meeting. The reactions of wetlands agency members in attendance ranged from shock to frustration to anger – until that decision wildlife was a common topic included in reports from applicants submitted to agencies around the state.

The legislature responded promptly in the 2004 legislative session to the discontent in the environmental and regulatory community with a bill reflecting a compromise between the Connecticut Homebuilders Association and a consortium of environmental organizations, including CACIWC. I've heard some folks debate that the new law codifies (affirms) the Supreme Court's decision while others say, the law restores wildlife to an agency's jurisdiction. Who's right? Well, they both are. Five years after the passage of the law it's time to reflect on those legislative changes. Have you incorporated those changes into your standard operating procedure?

Wildlife, continued on page 7

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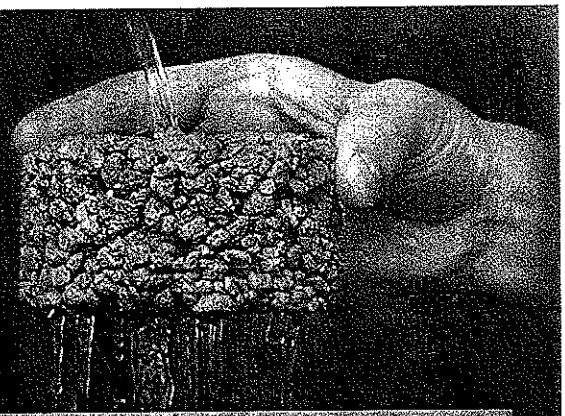

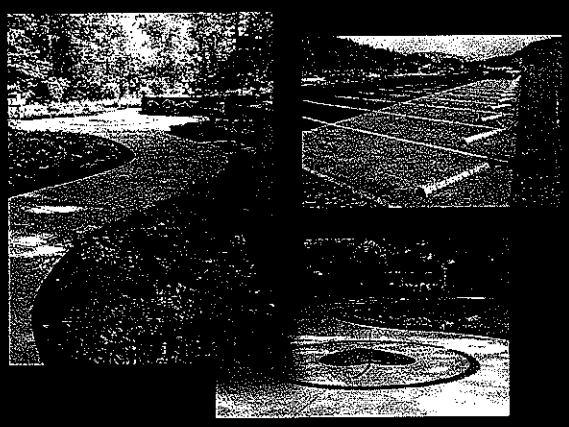

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Wildlife, continued from page 6

To begin, the legislature added two provisions to General Statutes § 22a-41. Section 22a-41 gives direction to the DEP and agencies on how to carry out their duties under the wetlands law including "regulating, licensing and enforcing" the wetlands act. In other words, it applies to all of the duties. The legislature established that: "(1) 'wetlands or watercourses' includes aquatic, plant or animal life and habitats in wetlands or watercourses, and (2) 'habitats' means areas or environments in which an organism or biological population normally lives or occurs." General Statutes § 22a-41 (c). This subsection clearly reverses the holding in first AvalonBay quotation above. The legislature restored the jurisdiction of the DEP and wetlands commissions to consider wildlife and habitats, in carrying out their duties.

However, the legislature placed significant restrictions *on wetlands agencies but not on DEP*, when reviewing applications for regulated activities occurring outside of wetlands and watercourses. "A municipal inland wetlands agency **shall not deny or condition an application** for a regulated activity in an area outside wetlands or watercourses **on the basis of an impact or effect on aquatic, plant, or animal life unless such activity will likely impact or affect the physical characteristics of such wetlands or watercourses**." General Statutes § 22a-41 (d). This subsection codifies the Supreme Court's decision for activities occurring in the upland review area or outside the upland review area.

To implement this provision of the law:

- Check where the regulated activity will occur.
- If it is in a wetland or watercourse, you may consider the impact on wildlife and deny or place conditions on the application solely based on the adverse impact to "aquatic, plant or animal life."
- If the regulated activity is in the upland review area or beyond, and the proposed activities will likely impact or affect the physical characteristics of wetlands or watercourses, you may deny or place conditions on the application based on the impact on "aquatic, plant or animal life."
- If the regulated activity is in the upland review area or beyond, and the proposed activities will NOT likely impact or affect the physical

Wildlife, continued on page 8

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Wildlife, continued from page 7

characteristics of wetlands or watercourses, you may NOT deny or place conditions on the application based on the impact on "aquatic, plant or animal life."

Do your agency regulations include these changes in law? I was appearing before a wetlands agency this spring that was inquiring about impact on vernal pools when no activity was proposed for the vernal pool. In looking at the agency regulations, I discovered that they had not been amended since 2001. This change in law is not intuitive – you will need to amend your regulations in order to have the correct wording before you. The 2006 DEP Model Regulations include these changes at § 10.5 [General Statutes § 22a-41 (c)] and § 10.6 [General Statutes § 22a-41 (d)].

The debate now focuses on what a physical characteristic is. Surely, sediment that finds its way into a wetland affects the physical characteristic of that wetland. Activity in the upland review area that changes the temperature of the watercourse, such as removal of a vegetated canopy which allows the sun to heat up the watercourse is a physical characteristic. (Reminder: do you have expert evidence to "connect the dots" between the removal of the canopy and the change in water temperature?).

Your authority to consider the impacts on wildlife from a regulated activity has not changed when the proposed regulated activity occurs in the wetlands or watercourse. Outside of wetlands or watercourses, you have had to consider a series of questions, before you could deny an application based on impact to wildlife or even impose a condition in a permit. If you are reading this article, reflecting on your agency's standard operating procedure which already incorporates all of these changes, and wondering why other agencies are having trouble, congratulations! For any other agencies, check to make sure your regulations are current, and develop a checklist of when you can consider impacts to wildlife.

Attorney Janet P. Brooks practices law in Middletown at D'Aquila & Brooks, LLC.

(Endnotes)

1 AvalonBay Communities, Inc. v. Inland Wetlands Commission, 266 Conn. 150, 163 (2003).

2 AvalonBay Communities, Inc. v. Inland Wetlands Commission, 266 Conn. 150, 163 n.19 (2003).

Advertisement

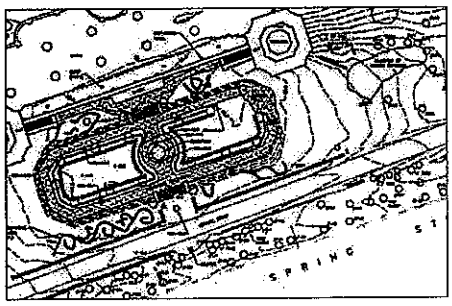
Read Between the Lines: Not All Maps Are Created Equal

By Jeffrey J. Stefanik, L.S.
Director of Land Surveying, CME

OK, So You Have a Map...

Many commissions review maps and plans as part of their function for a variety of purposes. Everyone charged with this task must bear in mind that these documents are not necessarily created equal and are often subject to varying degrees of accuracy dependant upon the source of the information and the manner in which it is executed.

There are essentially two types of property maps used in the State of Connecticut, and in very simple and broad terms they are: 1) **A2** maps in which the boundaries and physical features depicted are certified to a high degree of accuracy based on the mathematical precision required; and 2) **Class D** maps which can be based on compiled data from many sources.



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All maps indicating precise boundary lines must be certified by a licensed Land Surveyor adhering to A2 standards. Maps depicting existing contours should be certified by a Land Surveyor and proposed contours by a Professional Engineer.

Any maps depicting set back buffer dimensions to a property line or physical feature that lacks the signature, endorsement and embossed seal of a Land Surveyor must be considered of dubious quality. Documents of this nature should be deemed insufficient for compliance with Town regulations.

The Department of Consumer Protection and the Connecticut Association of Land Surveyors (CALS) published the Minimum Standards for Surveys and Maps in 1996 and they can be reviewed by visiting Sec.20-300B-1 of the State of Connecticut General Statutes and also by visiting the CALS web site at www.ctsurveyor.com.

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OFFICE OF THE TOWN ATTORNEY

TO: Members, Inland Wetlands and Watercourses Agency
Jay Northrup, Assistant Town Planner

FROM: Christopher W. Bromson, Town Attorney

DATE: February 1, 2001

SUBJECT: Proposed Amendments to the Inland Wetlands and Watercourses Regulations of the Town of Enfield

The proposed amendments to the regulations have been reviewed and are acceptable, subject to the following recommendations and comments:

Section 1.

- 1.5, second line – after "all regulated activities" add "with inland wetlands, watercourses and"

Section 2.

- 2.1 oo. – delete "[22-1-28 through 22a-35]"

Section 7.

- 7.5j – change "issues" to "issued"
- 7.8 – delete "[1.1x]"
- 7.8f – refers to "desired ~5 type of quality"; should "~5" be omitted?
- 7.12, second paragraph – split this into two paragraphs: First: "Any application to extend the expiration date ..." Second: "Such application for renewal, extension or amendment shall set forth ..."

Section 8.

- 8.1 – Change "Office of Planning" to "Office of Planning and Community Development"

- 8.5 - Change to "Incomplete applications may be denied without prejudice." There is no statutory or precedential authority for denials with prejudice or for one year filing bans. The Town, as a creation of the State, possesses only such rights and powers that have been granted expressly to it by the state. Blue Sky Bar, Inc. v. Town of Stratford, 203 Conn. 14, 19 (1987).

- 8.6 – delete the comma (,) after "Longmeadow"

Section 9.

- 9.1 – after "25 persons" delete the comma (,)

- 9.3 – Notice to abutters is not required by Connecticut General Statute §22a-42a(c)(1). The statute requires only published notice. The notice requirement in the proposed regulations will place an undue burden on the Agency and staff to verify that the applicant's list of abutters is accurate and that they have actually received notice. Also, the proposed regulation does not address how the Agency would proceed if an abutter refused to or was unable[1] to sign the return receipt. If a conservator, executor or power of attorney signs the return receipt, how will the Agency determine that the signatory actually has the authority to sign on behalf of the owner? Additionally, the requirement that all unit owners of a PRD or SRD be "notified individually" implies that if a unit is owned by a married couple the husband will receive one notice and the wife will receive another. What will happen if one spouse signs and the other does not or if one spouse signs on behalf of the other? This section may create several problems that could ultimately lead to a Court's reversal of an Agency decision.

Section 10.

- 10.3f – change "may have an inpact on wetlands or watercourses" to "are likely to impact or affect wetlands or watercourses"

- 10.3f – delete the last sentence. This is a "policy" statement and is more appropriate in Section 1.

- 10.5 – Delete the fourth sentence, it contradicts the language of Connecticut General Statute § 22a-41(b)(1).

[1] e.g. hospitalized, in a nursing home, in Florida for the winter, etc.

Section 11.

- 11.7 – capitalize the "a" in "any"

Section 13.

- 13.1, second sentence – change "it's" to "its"

Section 14.

- Change 14.9 to 14.8

Here Today, Gone Tomorrow? Connecticut's Vernal Pools

A Policy Guide to Ephemeral Wetlands Protection

Jessica D. Lawrence
Evan L. Preisser
Jennifer R. Yelin

Center for Coastal and Watershed Systems
Geoffrey C. Hughes Foundation
Spring 1998

Table of Contents

Acronyms

CACIWC – Connecticut Association of Conservation and Inland Wetlands Commissions
CAMP – Connecticut Amphibian Monitoring Program
CEPA – Connecticut Environmental Policy Act
CWA – Federal Clean Water Act
DEP – Connecticut Department of Environmental Protection
DFW - Massachusetts Division of Fish and Wildlife
EPA – United States Environmental Protection Agency
IWRD - Inland Wetlands Resource Division
IWWA - Connecticut Inland Wetland and Watercourses Act
IWWC- Inland Wetland and Watercourses Commission
NEPA – National Environmental Policy Act
NWI - National Wetlands Inventory

Abstract

During a research project supported by a Geoffrey C. Hughes Foundation grant, we investigated vernal pool protection in Connecticut. We used transcripts from a recent vernal pool conference, interviews with members of relevant interest groups, and literature reviews to determine constraints on improving vernal pool policy. Participants from interest groups had very different views of what could and should be done to prevent the further decline of vernal pool habitats. As a result of our research, we offer recommendations for work on both the state and local level. These recommendations are intended to foster awareness of vernal pools as unique habitats, increase protection of these areas, and expand citizen participation in the vernal pool regulatory process.

Problem Definition

As habitat fragmentation and degradation increase, some obligate vernal pool species are declining in numbers. Inconsistent implementation of state regulations hampers an integrated approach to conservation. To prevent further species decline and vernal pool loss, we need to evaluate alternatives that improve Connecticut vernal pool protection.

Introduction

In this section we define what a vernal pool is and explain why they are important. Because vernal pools are dry for part of the year, they can easily be overlooked and undervalued. However, they are critical habitat for many aquatic and terrestrial organisms.

Vernal pool protection has become an increasingly heated issue in recent years. The majority of Connecticut citizens, however, do not know about these valuable wetland habitats. Lack of knowledge about these areas is largely due to a single fact: vernal pools are ephemeral. The "big puddle" you might wade in knee-deep during the early spring can be completely dry by summer. This key characteristic of vernal pools makes them critical habitat for many organisms, but it also makes them hard to find and protect. Land-use planners who do not know what to look for can easily miss a vernal pool. To frame the issue in Connecticut, an understanding of what vernal pools are and why they are important is useful.

I. What is a Vernal Pool?

Part of the confusion surrounding vernal pool conservation stems from the fact that the term 'vernal pool' has many possible definitions. For many years, these areas were not recognized as significant; wetland regulations were written to protect permanent water bodies or seasonally saturated soils that surveyors could detect regardless of season. Because vernal pools are dry during part of the year, their ecological significance was under-estimated. As scientists have learned more, they have identified several characteristics that make vernal pools unique.

1) Vernal pools dry out during most years. The defining characteristic of vernal pools is that they are ephemeral, drying for at least part of the year. Although some vernal pools may, during wet years, retain water year-round, they characteristically dry out completely during the hotter months. If they do not dry regularly, predatory organisms that survive in a permanent aquatic environment (e.g., fish) may dominate the ecosystem and unique vernal pool species could be lost.

2) They occur in a confined basin and lack a permanent outflow stream. The existence of a confined basin and the lack of a permanent outlet distinguish vernal pools from marshes or wide areas in a stream. This distinction is critical; without these characteristics many typically marshy or riverine areas would be classified as vernal pools. A water puddle in a tire rut is not a vernal pool ecosystem.

3) Vernal pools contain water during the spring. It is commonly agreed that a vernal pool must contain water for at least two months during the spring. If the water remains for a shorter time, even creatures that breed within ephemeral pools may be unable to complete their development and emerge prior to the pool's drying.

4) Vernal pools do not support a fish population. Fish are characteristic of aquatic systems, but they cannot live without water. Their absence allows other organisms to use the habitat provided by vernal pools.

5) Vernal pools support the life-cycle of characteristic species. These characteristic organisms include both amphibian and invertebrate species that can only breed successfully in vernal pools.

Legal requirements for vernal pool identification may not directly include these characteristics. Although Connecticut law does not contain an explicit definition, soil type, hydrology and vegetation are used to identify vernal pools in the state. These requirements only identify the area as a wetland, however, and the designation of "vernal pool" for purposes of conservation and protection is dependent on the above guidelines.

II. Why Are Vernal Pools Important?

An array of species depend on vernal pools for breeding and survival. Wood ducks rely on vernal pools for abundant food when other resources are scarce, and they play a critical role in feeding migratory birds. However, it is the smaller organisms - the amphibians and invertebrates – that make vernal pools unique. Vernal pool species can be either facultative (they can breed successfully in many aquatic systems) or obligate (they breed successfully only in vernal pools).

1) Vernal pool invertebrates. The most abundant organisms within a pool are the invertebrates (e.g., water beetles, fairy shrimp, snails, and dragonfly and damselfly nymphs). These creatures are predators as well as prey: diving beetle larvae can attack and kill tadpoles many times their size. The most noticeable invertebrates are fairy shrimp, graceful creatures that grow up to an inch long. As with many other vernal pool species, they are easy prey and are quickly eliminated by fish. The presence of adult fairy shrimp indicates that fish are absent from the pool.

2) Vernal pool amphibians. Vernal pool vertebrates, such as salamanders, frogs and toads, are focal points for species conservation. Although they do not live in vernal pools, they are dependent on these environments for successful breeding. In order to develop and emerge from the pool before it dries, tadpoles and salamander larvae must constantly search for food. In the presence of fish, this activity makes them vulnerable and they are often eaten. Obligate vernal pool amphibians include the spotted salamander, marbled salamander, and Jefferson salamander (a Connecticut Species of Special Concern) are found primarily where fish are absent. Although adult salamanders breed in one pool throughout their reproductive lives, they return to the upland habitat after breeding. Juvenile salamanders may wander as far as 800 yards from their birth site, and often chose vernal pools other than their birth place for breeding. This juvenile dispersal makes vernal pool connectivity essential: populations in isolated pools may decline following drought years if immigration from neighboring pools is prevented. In addition, connectivity preserves the genetic diversity of small populations while providing the upland habitat necessary for adult amphibians.

Another species that mainly depends on vernal pools is the wood frog. These frogs live in forests rather than near lakes and streams and congregate at vernal pools to mate and lay their eggs. They have large tadpoles that emerge relatively quickly from the pool. Wood frogs are so sensitive to habitat disturbance and fragmentation that they may eventually disappear from forest patches smaller than 100 acres. The Eastern spadefoot toad, an endangered species in Connecticut, is similarly dependent on vernal pools for survival.

3) Vernal pool ecosystems. Many other species rely on vernal pools. If pools are degraded or isolated from adjacent habitat by roads and development, the number of species living in them plummets. To protect the organisms that depend on vernal pools, it is necessary to protect both the pool and the surrounding upland area, preserving adult, juvenile, and larval habitat. Only by doing so will the community of vernal pool species remain functional and intact.

RESEARCH OBJECTIVE

The purpose of our research was to use a policy-oriented approach to evaluate vernal pool protection in Connecticut. We did this by:

a) Analyzing historical trends leading to current laws and attitudes,

b) Identifying important policy factors that have affected vernal pool protection, and

c) Considering each participant's position in vernal pool protection and how this affected their perspective on the issue.

These steps allowed us to effectively define the 'problem' in Connecticut vernal pool policies and regulations.

METHODOLOGY

This study was carried out during the winter and spring of 1998. Initially, we read through lecture transcripts from the vernal pool conference series that occurred in November 1997 and January 1998. After familiarizing ourselves with the transcripts and the current literature, we contacted several presenters at the conference and asked them to recommend people from a range of perspectives and backgrounds for in-depth interviews.

We interviewed 36 people (see Table 2, page 14, for institutional affiliations). Our questions focused on the following categories:

a) The individual's perspective on the policy situation,

b) Their strategies for protection and how they have been involved in this issue,

c) Their alternatives to improve the situation, and

d) Projections for the future if the status quo persists.

Historical Developments in Vernal Pool Protection

In order to determine appropriate strategies for future vernal pool protection in Connecticut, it is important to examine past policies and activities that may have led to their present condition. Using this context, we can make more appropriate recommendations for future programs. A comprehensive analysis should consider Connecticut's changing landscape; the evolution of public interest in vernal pools; the provisions of existing state laws; innovative approaches of neighboring states, and their effects on development activities; and strategies for vernal pool identification, monitoring, and protection. Table 1 (page 9) highlights the effects of each of these developments.

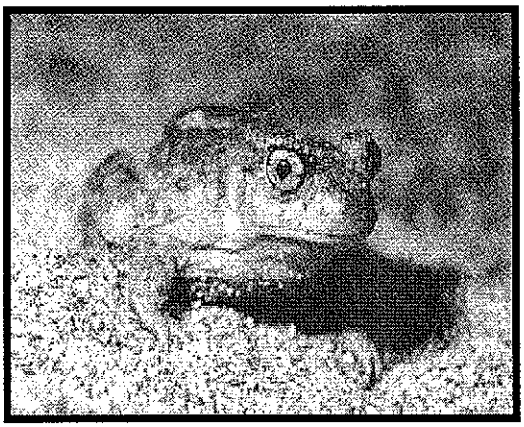
I. Connecticut's Changing Landscape

Connecticut's landscape has undergone significant habitat changes with corresponding impacts on vernal pools. The earliest, and perhaps most significant, changes occurred 10,000-years ago at the time of glacial retreat. After glaciation, large ice blocks remained on the denuded landscape. As these blocks melted, they formed depressions surrounded by sandy rims. Many of these glacial depressions, or pingo scars, persist today as vernal pools. These pools are more common in the Central Valley than in eastern and western Connecticut, occurring along floodplains and glacial lake bottoms.[1] In this way, glaciers laid the footprint for today's vernal pools. Other vernal pools were created where topography and soil/ bedrock created appropriate conditions for seasonal water retention and drainage.

Human activity has significantly altered the condition of many of these ancient pools. Early settlers cleared the land for agriculture, increasing solar radiation and evaporation from the pools. However, most early farmers left a strip of undisturbed land around the periphery of the pools, reducing these impacts. Vernal pools during the eighteenth and nineteenth centuries were forested islands amid expansive pastures.

Later development has had a much greater impact on vernal pools. Housing projects and associated roads have fragmented the landscape, inhibiting migration of many vernal pool species. One study found that a low-volume road with 24 to 40 vehicles per hour killed 50 percent of migrating toads. At the same time, run-off from suburban development impairs water quality and species viability.

[1] Some areas in the Central Valley have over 40 pools in 300 acres.



Eastern Spadefoot Toad

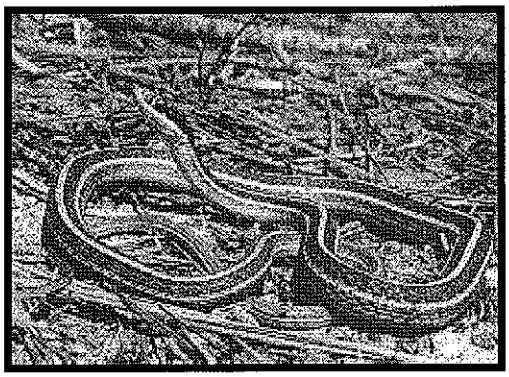
Despite growing development and habitat fragmentation in Connecticut, the overall amount of forest cover in the state has increased significantly in the twentieth century because of farm abandonment. While some forest cover may be beneficial to vernal pools (e.g., litterfall from surrounding trees changes the pool's nutrient level), a completely closed canopy can have a negative impact. Reduced solar radiation decreases algal growth, leading to a reduced food supply for macroinvertebrates. The trees themselves exploit water from the pools with their extensive root system, leading to earlier drying in the summer. The reduced food supply and early drying period make vernal pools with complete canopy cover more hazardous for larval amphibians, since they may be unable to complete their development before the pond dries.

II. An Awakening Awareness

There has been a historic lack of concern about vernal pool protection. This may be be-

cause of a general disinterest in amphibians.[2] Additionally, the public has traditionally undervalued vernal pools because of their transitory nature. Finally, the increased emphasis on mosquito control has led to vernal pool distruction. This disinterest has contributed to vernal pool decline throughout the country: wetland conservation commissions and developers often underestimate the values of these ephemeral wetlands and allow them to be drained, filled, or otherwise degraded by nearby activities.

In the past few years, however, public interest in vernal pool protection has markedly increased. This can be attributed, in part, to growing concern about amphibian health; amphibian deformities and population decline have received media attention. At the same time, scientific advancements are helping people recognize the irreplaceable value of vernal pools.



Ribbon Snake

This growing interest is reflected in an increased emphasis on vernal pool protection. Last year, the keynote address at the annual Connecticut Association of Conservation and Inland Wetlands Commissions (CACIWC) dinner focused on vernal pool protection in Connecticut. The Center for Coastal and Watershed Systems (CCWS) at Yale University and the DEP cosponsored a conference series on vernal pools. The DEP has issued a general information brochure on vernal pools along with a guidance document encouraging upland protection. The Connecticut Amphibian Monitoring Program (CAMP) has begun to census and record amphibian presence throughout the state. In addition, the Massachusetts certification program and associated publications (e.g., *Wicked Big Puddles*) have raised interest in Connecticut. Together, these activities have helped generate an increased awareness about vernal pools and growing support for their protection.

III. Current Regulations

1) Existing laws in Connecticut. Vernal pools are regulated in Connecticut by the Inland Wetlands and Watercourses Act (IWWA). Passed in 1972, the IWWA protects wetlands based on their soil drainage class. Each municipality enforces the IWWA through a local Inland Wetlands and Watercourses Commission (IWWC). Thus, each of the 169 towns in Connecticut enforces (and interprets) the IWWA independently, although they receive guidance from the state.

Although commissions have always had jurisdiction over vernal pools, the word "vernal" was not explicitly included in the IWWA until 1995. At this time, IWWCs were given explicit control over "all other bodies of water. . ., vernal or intermittent. . ." This amendment led to increased awareness and protection in the state.

The IWWA was modified again in 1996. In the past, public hearings were only held if a citizen intervened through the Connecticut Environmental Policy Act or the IWWC demanded further review. The 1996 Amendments changed this stipulation, forbidding commissions to hold a hearing unless:

a) A petition with 25 signatures has been filed,
b) The commission determines that the development is reasonably likely to cause a significant impact to the environment, or
c) A hearing would be in the public interest.

These new provisions simultaneously broaden and restrict opportunities for public comment. The commission cannot choose to hold a hearing unless it meets explicit goals, yet the public can demand a hearing even if the commission has decided against it. Petitions must be filed 15 days after the first meeting where the project is on the commission's agenda.

Commissions are required to publish their agendas in a local newspaper to inform the public about pending decisions. These publications are intended to notify the public about issues that are being considered, permits that are being reviewed, and to provide the public an opportunity to comment on these proposals. However, citizens may not always be aware of approaching decisions for small proposals. Because of the 1996 amendments, developers must generally attend a minimum of two commission meetings: the first to present their permit request, and the second to ensure the IWWC has

[2] In fact, amphibians ranked last on the list in a 1980 museum survey of possible exhibit topics.

not received a public petition or scheduled a hearing. In some instances, the commission will schedule a hearing during the first meeting where the proposal is presented. However, if the commission decides not to schedule a hearing at this time, the developer must still appear at the following meeting to ensure that a public petition has not been filed.

IWWCs have jurisdiction over all activities that affect a vernal pool.[3] Although 80 percent of IWWCs exercise jurisdiction over the upland area, the extent of their review varies considerably between commissions, with upland review areas ranging from 25 to 650 feet. This year, the DEP issued a guidance document recommending a 100-foot-wide upland review area for all wetlands. These areas are rarely prohibitive. Rather, the commission reviews activities proposed within the vernal pool buffer and determines if they will adversely affect the pool. Some commissions have established large upland review areas to expand their regulatory authority. This enables the IWWC to review most land-use proposals.

Commissions have a number of options for enforcing the IWWA. Violators may be issued a cease-and-desist order, given a $1000/ day fine, and/ or six months imprisonment for criminal violations, or a $1,000/ day civil penalty.. For repeated offenses, the fine increases to $2,000/ day. Although the court may demand that the defendant reimburse the municipality for legal fees if the commission wins the case, the local commission is not reimbursed if they lose. Because of these restrictions, commissions seldom pursue vernal pool violations: the risk is simply too great for their limited budgets. Further, even if a local commission is particularly vigilant, the difficulties of vernal pool identification (see *Identification* below) may preclude sanctions against violators.

Vernal pools are also protected under the Connecticut Environmental Policy Act. This act is a local corollary to the National Environmental Policy Act (NEPA). The Act mandates that Environmental Impact Statements be filed for certain state agency projects Private developers are exempt from this requirement, regardless of the size of the proposed development.[4] Individuals can use the Connecticut Environmental Protection Act as a vehicle to intervene in local permit proceedings and/ or sue private developers for injunctive relief.

Despite the lack of Connecticut Environmental Policy Act protection for private development, municipal wetlands review typically includes a biological assessment which should detect vernal pools and identify likely impacts. CEPA review is not necessary for public projects that already meet NEPA requirements.

2) The Massachusetts model. The Massachusetts' regulations governing vernal pool protection are extremely different from the IWWA in Connecticut. In Massachusetts, a vernal pool is protected if a) it is located within a 100-year inland floodplain or on isolated land that is subject to flooding, or b) it has been certified by the Massachusetts Division of Fish and Wildlife (DFW). Once the DFW has approved certification, Massachusetts has a prohibitory policy precluding all development within the pool itself. Vernal pool certification must be completed before a Notice of Intent for development is submitted; otherwise, the project is approved regardless of vernal pools found on site.

To complete certification, the pool must meet four criteria:

a) a confined basin depression,
b) two months of standing water (generally in spring and summer),
c) absence of a sustained fish population, and
d) occupation by obligate species.

Because certification is entirely voluntary, pools may not be identified unless a motivated individual chooses to file for vernal pool status. As a consequence, very few vernal pools have been certified in the state.[5]

A high-school biology teacher formed the Massachusetts Vernal Pools Association to address this issue. This volunteer high-school

[3]This authority was made explicit in the 1991 Connecticut Supreme Court case Lewis A. Lizotte, et al. v. Conservation Commission of the Town of Somers, et al. (216 CT 320) which allows commissions to regulate activities that occur within certain prescribed distance of inland wetlands and watercourses. It was expanded by Aaron Reid v. Town of Hebron, Conservation Commission, et al. (1996 WL 634254 (Conn. Super.)) which reiterates the commission's authority over activities occurring outside the wetland.

[4] This is different from the Massachusetts standard where private developers have to file an Environmental Assessment or Impact Statement, depending on the project's scope.

[5]In fact, after ten years of vernal pool certification, only 1,376 vernal pools had been certified, out of an estimated 60,000-80,000 pools in the state.

group learns about vernal pool biology through pool certification. The group heightens public awareness and improves vernal pool protection in the state.[6]

Although the Massachusetts standard potentially provides complete and nonnegotiable protection, it is widely criticized for several reasons. The policy relies heavily on proactive identification, yet does not create a formal structure for certification efforts. Further, despite the prohibitive nature of the policy, it provides inadequate upland protection. Finally, Massachusetts defines vernal pools based on the presence of obligate species. Because of this provision, bodies of water which lack obligate fauna but exhibit all the functional characteristics of a vernal pool may be denied certification.

IV. Vernal Pools And Their Role in Delimiting Development

With a few exceptions, vernal pool presence seldom blocks development,. In one instance, a Connecticut IWWC rejected a golf course proposal because of vernal pool impacts. The developer subsequently acquired 65 additional acres in another location in order to leave the vernal pools and surrounding uplands undisturbed. In another example, a developer bulldozed a vernal pool on his property during IWWC deliberations. This case is currently pending in court.

More frequently, commissions recommend revisions to development proposals to reduce potential impacts. For instance, a driveway may be reconfigured to avoid a vernal pool; however, the project as a whole will be approved.

On the state level, vernal pools are generally one of a number of factors considered in project design. For instance, when the Department of Transportation compares road alignments, it considers soils, slopes, public land along with vernal pools. Vernal pools are seldom a prohibitive feature; however, they are taken into account when determining the optimum alignment.

V. Identifying Ephemeral Wetlands

Vernal pools are ecologically valuable because of their unique hydrology, ephemeral nature, and rich species assemblage. It is precisely for this reason that the pools can support such tremendous amphibian diversity. Unfortunately, this quality also makes them extremely difficult to identify during most of the year.

Most commissions consult town wetlands maps (derived from Natural Resource Conservation Service maps) when trying to identify vernal pools. These maps merely identify wetlands based on soil drainage, and do not delineate wetlands by category. Thus, these maps do not distinguish between swamps, bogs, marshes, or vernal pools. Further, the maps typically use an extremely coarse resolution, often overlooking vernal pools altogether. Ultimately, ground-truthing an area is the only way to identify vernal pools. Unfortunately, many proposals may escape this site-specific review: if the property is not identified on the town wetlands map, the developer may proceed through planning and zoning without ever coming before the IWWC.

Site review generally occurs at the time of the proposal. If it is presented in the summer, when vernal pools have dried, they may remain undetected. Although a qualified soil scientist may still be able to identify the vernal pool at this time (based on an absence of vegetation in the pool's core, soil types, water-line markings, surrounding topography, etc.), a quick site assessment will often overlook their presence. Because it is the responsibility of the property owner/ applicant (rather than the IWWC) to identify vernal pools on their land, it is difficult to standardize review. To address this problem, several towns have begun to proactively identify vernal pools.[7] By demarcating vernal pools in the spring, commissions can be more responsive to development permits as they are submitted.

VI. Monitoring Fleeting Resources

A general lack of understanding about amphibian habitat requirements and locations is one of the reasons vernal pools have been inadequately protected in the past. To address this, the Connecticut Amphibian Monitoring Program (CAMP) has randomly selected 15 sites throughout the state on which to conduct a 15-year, volunteer amphibian study. CAMP will use cover searching, call surveys, and night road searches to generate a relative abundance index for amphibians. Participants will determine local population viability and habitat requirements by comparing these figures to a baseline population. Other monitoring programs (e.g., through the Morgan School in Clinton) use high school students to collect water quality data and information on species viability.

[6]The Vernal Pool Association has been extremely effective in certifying vernal pools. In 1992, half of the state's 600 certified pools had been registered by this group.

[7] For instance, Haddam has used aerial photographs (coupled with ground-truthing) to delineate vernal pools.

Table 1:
Developments in Vernal Pool Protection and their Consequences

Increasing forest cover	→	Changes pool composition, temperature, and nutrient and oxygen availability
Fragmentation of upland habitat	→	Impedes migration; reduces available upland habitat; increased likelihood of local species extirpation
Growing awareness and interest in vernal pools (and amphibians)	→	Historic lack of interest necessitates education; any policy should build upon this growing interest
IWWA enforced independently by each municipality	→	Inconsistent protection reduces developer certainty; potential for regulatory "race to the bottom"[8]
Differential education and funding among commissions	→	Inconsistent protection reduces developer certainty; potential for regulatory "race to the bottom"[8]
Ad-hoc decision-making	→	Different projects may be regulated differently in a single municipality
Increased local authority granted for upland protection	→	Commissions have the potential to protect vital migratory corridors and terrestrial habitat; buffer protection varies dramatically by municipality
1995 amendments add vernal to the IWWA	→	Potential to increase vernal pool protection; tremendous flexibility of interpretation (may be a safety net or a loophole)

[8] See page 16.

Participants and their Perspectives

An essential part of our research was to identify key stakeholders in Connecticut vernal pool protection. We identified primary interest groups and interviewed representatives from each constituency to learn about their perspectives and strategies (Table 2 - page 14 delineates these groups). Understanding how these groups interact on the issue of vernal pool protection is an important first step to finding common ground and proposing useful alternatives.

We interviewed a wide variety of people regarding vernal pool protection. Although each participant had specific viewpoints and approaches to this issue, many individuals shared a broad perspective on how to deal with vernal pool conservation. Depending on their institutional affiliation, we divided individuals into nine broad categories and incorporated their answers into a statement of that group's position. This is, by necessity, a generalization of each category's approach and perspective; however, it provides a general understanding of the policy context. Knowledge of the groups concerned with vernal pool policy is essential for implementation. Policy is ineffective without an understanding of the human context which defines it.

I. National Government

Agencies within the US government have a leading role in the development of vernal pool policy. The Environmental Protection Agency and Army Corps of Engineers have jurisdiction over most wetlands and vernal pools under Section 404 of the Clean Water Act (CWA). Their primary role as administrators of Section 404 is two-fold: 1) to issue or deny permits for activities proposed in wetlands or waters that trigger jurisdiction, and 2) to enforce against unpermitted activities. For an area to be under the jurisdiction of the Army Corps of Engineers, it must meet the standards listed in the 1987 Army Corps wetland identification and delineation manual, which require hydric soils, dominance of wetland vegetation, and appropriate hydrology.

There are two categories of permits under the Army Corps of Engineers regulatory program: Category 1 (for wetlands under 5,000 square feet) and Category 2 (for wetlands ranging from 5,000 square feet to 1 acre). Category 1 wetlands are automatically permitted if a corresponding Connecticut Inland Wetland permit is issued, unless the proposed activities will impact federally endangered species or critical habitats. Category 2 projects receive expedited review. During this review process, the Army Corps, DEP, EPA, and Fish and Wildlife Service must all agree that minimal impacts are expected from the proposed development. Public review is not required.

If a larger impact is anticipated, the developer must apply for and obtain an individual permit. This procedure involves public review and must ensure that the proposed activity first avoids wetlands impacts, then minimizes adverse impacts, and finally compensates for any unavoidable adverse impacts. The need for an individual permit also triggers the need to obtain Section 401 water quality certification from the state to ensure that a proposed activity will not violate state water quality standards.

If the area under question is in fact a vernal pool (i.e., it can support the life cycle of an obligate vernal pool species), it will carry more weight in the impact assessment. Most vernal pools are considered special resources or areas of concern, and thus will normally require individual rather than general permits.

II. State Government

The state government in Connecticut plays a major role in determining the course of vernal pool protection. Although direct authority over private development has been shifted to individual towns, an array of initiatives like the Connecticut Environmental Protection Act, the Open Space Act, and state-wide Conservation and Development plans have made the state a key player in vernal pool protection. State responsibility for this issue is concentrated in the Department of Environmental Protection's Inland Water Resources Division (IWRD). The Department of Transportation is affected by vernal pool protection due to its road-building activities.

State approaches to vernal pool issues have focused on raising awareness. They alerted

IWWC commissioners to vernal pools in a letter distributed to all town commissions, and they co-sponsored the recent vernal pool conference series. The DEP-IWRD sees its role as regulating the impacts of state-level development while serving as a resource for town commissions and residents. They do not see themselves as a primary wetland regulatory force, intending instead to facilitate decision-making on the local level.

III. Local Government

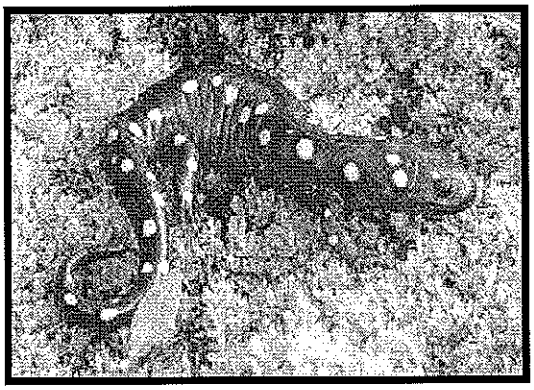
In Connecticut, the power to directly regulate vernal pools belongs to each municipality. This power is spread among town Inland Wetlands and Watercourses Commissions, Conservation Commissions, and Planning and Zoning Commissions. These groups have the ability to accept, reject, or modify development proposals that impinge upon wetland areas or their adjoining buffers. In addition, IWWC and Conservation Commissions approve the design and implementation of mitigation/ minimization strategies and ensuring that development is consistent with the town's overall Conservation and Development Plan.

Regulation is the primary local government method of control over vernal pool policy issues, however, the amount of permitted development ranges widely between towns. Upland review areas range from 25 feet in some towns to 650 feet in others, and state recommendations as to appropriate conservation methods can be followed or ignored. Local governments value the flexibility of town-level control over development and conservation affords them, and they are resistant to state-level regulation that might diminish their power.

The values that local governments seek to promote through their vernal pool/ wetland regulations are varied. Many communities perceive wetland regulations as a useful brake on rapid development, while others value the economic benefits of growth and seek to reduce regulation. Many towns are also aware of issues of aesthetics, public recreation, and property values when designing their regulatory framework.

IV. Legal/ Policy/ Land-Use Organizations

Law firms, policy, and land-use organizations are important groups in the vernal pool policy process. Although they lack regulatory power, these organizations can influence decision-making by providing expert advice and counsel, becoming intervenors in local permit proceedings (through the Connecticut Environmental Protection Act), and supplying educational resources. They are often focused around a state- or landscape-level planning process, and may work with individual towns to facilitate these larger goals.



Spotted Salamander

These organizations often wield power through the workshops and meetings that they sponsor. These educational opportunities bring together town commissioners and can expose them to new ideas in conservation, planning, and development. Because these organizations are perceived to be experts in the area of land-use and policy, their recommendations carry great weight with local decision-makers. These recommendations often favor proactive planning and long-term development plans.

V. Environmental Organizations

Connecticut has a large number of environmental organizations, ranging from national to local groups. They often draw wide membership from the community, and they can influence decisions at the local level by raising issues at commission hearings. Although all of these organizations are oriented around the general theme of conservation, they vary in their response to development of open-space areas.

Environmental groups have considerable power in the vernal pool protection process. By raising issues to local commissions, they can slow or stop inappropriate development and encourage the adoption of stricter conservation standards. In addition, they can increase awareness of wetland/ vernal pool issues by educating the public through outreach programs. Finally, these groups can initiate suits against developers if they think that local or state law is being ignored in the permitting process. In sum, environmental organizations aim to promote conser-

vation and hope to cultivate an increased appreciation of nature.

VI. Consultants

Consultants are often hired to provide expert guidance to local commissions and developers. They can bring knowledge and experience to the planning process, allowing decisions to better reflect the latest science and planning strategies. They are hired to do town-level wetland inventories and delineation, design monitoring programs to monitor an area's health, or act as an expert voice in development planning.

As paid professionals, consultants focus on educating their clients. This can result in the avoidance of lawsuits over improperly planned developments, and a more proactive planning process at the town commission level. As they work in the field of wetland/ vernal pool consultation, consultants gain experience that enables them to do their job more efficiently. In addition, many consultants are interested in environmental protection and see their position as a way to ensure that conservation and development do not come into conflict.

VII. Development Groups

Development groups seek to enhance or modify the built environment. They can serve as a powerful stimulus for growth and economic development. They also attempt to improve the public's well-being by giving them choices in where and how to live, shop, and work. At the same time, habitat fragmentation caused by development can degrade vernal pool habitats and cause species decline. Developers also may harm vernal pools directly through improper or insufficient mitigation/minimization strategies when working near these areas.

Developers convey their concern about overly restrictive laws and improper mitigation and minimization strategies by lobbying town commissions and maintaining national organizations that act as advocacy groups. Developers are generally concerned about the inconsistencies of local IWWA enforcement and many emphasized the need for a single set of uniform standards.

VIII. Scientists

Scientists and amateur naturalists are interested in understanding the interactions between different parts of natural systems. Vernal pool research ranges from information on amphibian behavior and development to nutrient cycles and vernal pool hydrology. Within southern New England, a number of biologists have researched some aspect of vernal pools and they are continuing these investigations.

To influence the vernal pool policy process, scientists rely mostly on increasing public awareness of these areas. This can be done through publications, lectures, conferences, and the recruitment of volunteers for field work. By teaching others about these areas and highlighting holes in existing knowledge, scientists hope to convince the public to conserve these areas until more is known about them.

IX. Educators/ Media

Educators and the media are interested in vernal pools as a means to teach people about the environment. Through newspaper articles, school lessons, and outreach programs, educators seek to increase awareness and public interest in vernal pool protection. Classroom work and nature walks create enthusiasm that sometimes develops into a movement for vernal pool conservation.

Educators and the media are experts at creating and maintaining awareness for their projects. By increasing public knowledge about vernal pools, they teach the public about conservation and environmental protection.

Table 2: Participant Groups and Contacted Organizations

Participant Group	Organization Contacted
National Government	
	US Army Corps of Engineers
	US Environmental Protection Agency
State Government	
	Connecticut Department of Environmental Protection - Inland Wetland Resources Division
	Connecticut Department of Environmental Protection - Wildlife Management
	Connecticut Department of Transportation
	Massachusetts Department of Fish and Wildlife – Natural Heritage Program
	Rhode Island Department of Environmental Management
Local Government	
	Burlington Conservation Commission
	Middletown Planning Department
	Orange Inland Wetlands and Watercourses Commission
	Ridgefield Conservation Commission
	Redding Conservation Commission
	Southbury Inland Wetlands and Watercourses Commission
Legal/Policy/Land-Use Organizations	
	Connecticut Association of Conservation and Inland Wetland Commissions
	Murtha, Cullina, Richter, and Pinney
	Pace University School of Law, Land Use Law Center
Environmental Organizations	
	Clinton Land Trust
	Connecticut Audubon Society
	Hokam Farm Nature Center
	Killingworth Land Trust
	Platt Nature Center
	Science Center of Connecticut
Environmental/ Development Consultants	
	Connecticut Ecosystems LLC
	New England Environmental Services
	Peter Tavino, Professional Engineer, Professional Consultant
	Vanasse, Hangen, Brustlin Associates
	REMA Ecological Services
Development Groups	
	Connecticut Homebuilders Association
	National Association of Homebuilders
Scientists	
	Massachusetts Audubon Society
	University of Connecticut
	Wesleyan University
	Wildlife Conservation Society
	Yale University
Educators/Media	
	Tufts University
	Yale University Alumni Magazine
	University of Massachusetts Extension Service

Limitations and Opportunities for Vernal Pool Protection

There are many constraints governing what can be done to protect vernal pools in Connecticut. These conditions may influence how regulations will be interpreted and implemented by commissions. At the same time, some factors may provide opportunities for improving vernal pool protection. By recognizing these limitations and opportunities up front, it is easier to identify appropriate policies for protecting vernal pools. Key conditions include the flexibility of the state's vernal pool definition, uncertainty about appropriate buffer width, inconsistent protection by different municipalities, a lack of financial and educational resources, jurisdictional politics, a general distrust of government, lack of public interest in vernal pool protection, difficulties of vernal pool identification, and access to private property.

I. Regulatory Safety Net or LoopHole?

Although the term vernal was explicitly added to the IWWA in 1995, it is not defined in the Act itself. By regulating watercourses that are "vernal or intermittent," the IWWA simply extends jurisdiction to bodies of water which "pertain to the spring." In many ways, this lack of specificity could ultimately lead to greater protection. The Act provides a large safety net that can capture any facet of a vernal pool (e.g., obligatory organisms, drainage patterns, hydrophilic vegetation). Alternatively, the flexibility of the IWWA definition can act as a filter, removing many potential vernal pools from consideration. A more specific definition, however, may define vernal pools too narrowly, excluding many intermittent bodies of water from consideration.

Traditionally, a vernal pool is defined as an ephemeral basin of water lacking an inlet, outlet, and adult fish populations. This definition may also require particular obligate species to be present (see *Introduction,* above). There is some debate about the validity of this definition. Some people believe that a vernal pool can have an inlet or outlet, so long as the passage is narrow enough to restrict fish passage. Others maintain that a pool should be defined solely by its physical properties, without concern for obligate species. Again, the definition adopted in any regulation will significantly impact the resources that are protected.

II. Setting Buffers and Boundaries

Juvenile amphibian species may disperse over one-half mile from the pool itself, necessitating upland protection. Some estimate that an upland area 10 to 20 times larger than the vernal pool must be protected to ensure species survival. Regardless of the exact spatial determination, upland protection is vital, as vernal pool species generally spend most of their lives in the surrounding terrestrial habitat. Barriers to amphibian movement include large bodies of freshwater (which may host fish), salt water, row-crop agriculture, roads, rip-rap and railroad berms. The surrounding habitat that must be protected is species and site specific: home-range, slope, soils, forest cover, distance from other pools, and proximity to roads all determine appropriate buffer size. The need for upland protection, coupled with site-specific determinations, may influence vernal pool policy.

III. 169 Towns, 169 Interpretations

Differential buffer protection is only one example of the inconsistent interpretation of the IWWA by different municipalities. Because the Act is implemented independently by each of the 169 towns in Connecticut, standards vary widely throughout the state.[9] These variations follow political rather than environmental boundaries.

Some of this inconsistency may be attributed to differential funds and education. Whereas some commissions are fully staffed (through Planning and Zoning), others rely on part-time employees. Similarly, a commissioner may be formally educated in wetlands conservation (e.g., a soil scientist), an enthusiastic lay-person, or merely have political interest in the appointment.

[9] For instance, similar projects may be interpreted differently by different towns. In one case, a proposal to enclose a 100-foot stream section in a box culvert was approved without comment or public hearing; whereas a 2,500-foot encroachment into a buffer zone for a pipe outlet and splashpad was subject to a three-month review process prior to approval.

Because of these differences, the permitting process is unpredictable and developers may not be able to anticipate what a particular commission will require.

There is speculation that this inconsistency could lead to a "race to the bottom" as developers target the municipalities with the most lax wetlands protection. Over time, many fear that communities with strict wetlands regulations will reduce their economic base while those with lower standards will attract these businesses (to the detriment of environmental quality). Competition could potentially lead strict municipalities to attract new business by lowering their environmental standards. However, this may not be a realistic concern as wetlands permitting (and vernal pool protection in particular) is only one of a multitude of factors associated with development approval.

Not only is regulatory interpretation inconsistent among towns, but it is often inconsistent between development proposals within a single municipality. Individual commissioner's decisions may be swayed by local politics and advocacy pressure. This reduces developer certainty and the public's confidence in the IWWA.

Ideally, towns would interpret the IWWA consistently, and each commission would have expert knowledge and adequate funding. This may be impractical given the freedom of the current regulatory structure. These limitations should be considered when selecting the appropriate strategy for improving vernal pool protection.

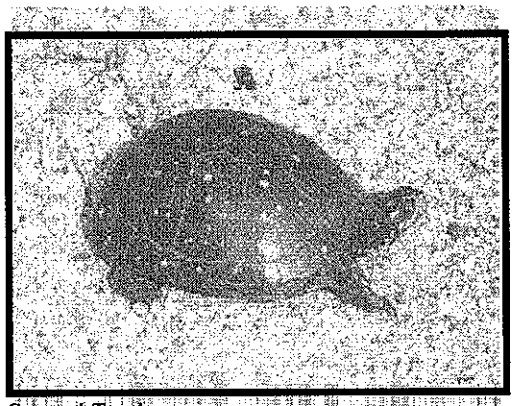
V. Politics and Protection

Although inconsistent protection can be reduced through a uniform state-wide policy, jurisdictional politics may limit the efficacy of this alternative. While many municipalities lack the funds and education to adequately protect vernal pools, the issue of empowering local decision-making is extremely important to many commissions. As a consequence, individual municipalities may resent state government intervention.

Politics may also limit how stringently commissions interpret the IWWA. Because the commission is a politically appointed office, commissioners' decisions are controlled, in part, by their constituents' demands. Commissioners may be hesitant to rigidly interpret the Act for fear that it will reduce local development and foster resentment in their district. Conversely, commissioners may be compelled to enforce the Act to some degree to avoid accusations of negligence.

IV. Ephemeral Funds

Different commissions have markedly different budgets for protecting wetlands. This compounds the problem of inconsistent protection. Limited funds may also preclude public acquisition of vernal pools. Several state policies, however, may facilitate these purchases. For instance, the Blue Ribbon Task Force on Open Space Acquisition is a bond bill requiring that 10 percent of Connecticut be protected as open space. Similarly, the Act for Open Space and Watershed Land Acquisition is pending before the Connecticut House of Representatives. This Act would provide $10 million for municipal open-space acquisitions (as a state cost-share program). Both of these sources provide possible opportunities for more active vernal pool protection in the future.



Spotted Turtle

VI. Regulatory Resistance

Another constraint to strict legislation is a general distrust of government and a negative attitude toward regulation. Landowners already resent the multi-stage process that is required for authorizing development and the public is not likely to support additional regulations. Policies which streamline the approval process are likely to win greater public approval and support. Regulatory resistance may be reduced if legislation is supported by scientific and factual evidence.

VII. Ignorance is Bliss

Inadequate vernal pool protection can be attributed to a historic lack of public interest and education about vernal pools and the species they support. The public may not be interested in vernal pools because they offer few utilitarian benefits. Whereas other wetlands have obvious economic value (e.g., by ameliorating flooding and filtering water), vernal pools "merely" provide ecological, educational, and aesthetic

benefits. Any policy to improve protection must address this historic disinterest. Although public interest in amphibians and vernal pools (see *Historical Developments* above) seems to be growing, this history of neglect does limit the potential for strengthening vernal pool protection.

VIII. Elusive and Ephemeral

The problem of vernal pool identification highlighted earlier restricts protection policies. To ensure adequate protection, pools may have to be identified before development proposals are submitted. Any policy must address the limitations of existing wetlands maps, lack of rigorous identification by many municipalities, and the inadequate education of commissioners about dry-pool identification. The current regulatory structure may simultaneously lead to over- and under-regulation: commissioners may over-protect seasonally flooded, yet ecologically unremarkable bodies of water while overlooking biologically valuable vernal pools.

IX. Private Property Issues

Vernal pools are also difficult to identify proactively because they frequently occur on private land. Thus, towns may not be able to complete a comprehensive, proactive springtime survey, because property owners may be hesitant to allow access.

Restricted access may also create problems when surveying a site for development. A vernal pool may be present just beyond the property line; however, in most towns this pool will remain undetected during the site assessment. Any protection policy must consider the landowner's skepticism about having their property surveyed, however, it is important that the entire review area be examined. Regulators may be able to create incentives for landowners to allow access, however by clarifying the potential benefits of having their property assessed at the town's expense.

Possible Strategies for Improving Vernal Pool Protection

In this section we have organized and described many of the alternatives suggested for vernal pool protection. These alternatives are based on suggestions made during phone interviews and conference presentations. Although many of these strategies are complementary, others may overlap. It is by no means a complete list, but provides a useful starting point for comparing viewpoints and weighing the costs and benefits of each possibility.

I. No Action Alternative

Local awareness about vernal pools appears to be increasing (see *Historical Developments,* above). Similarly, the likelihood that a vernal pool will be protected from destruction or degradation is also growing. On the other hand, suburban development and habitat fragmentation are also increasing.

Since wetlands regulations are primarily determined and implemented on a municipal scale, protection may be inconsistent across municipalities. Because of these conflicting pressures and unpredictable implementation, the future status and viability of vernal pools is questionable with this alternative.

Since state-sponsored projects must comply with DEP regulations, upland habitats of up to 100 feet are likely to be considered but not necessarily protected.

II. Changing State Regulations

Many participants commented that changing state regulations would be time consuming, expensive, politically unpopular, and unlikely to succeed. Others maintained that it was the most powerful alternative because it could standardize the currently variable levels of vernal pool protection.

1) Add a clause to the IWWA standardizing the width of upland buffers to be considered by commissioners. This option could incorporate either a prohibitive or negotiable buffer. With a prohibitive buffer, development would be forbidden in the protected zone. With a negotiable upland review area, commissioners would have the authority to comment on development projects proposed within the buffer, although they may choose not to do so.

Although state officials suggested that a legislative guideline could reduce conflicts, many commissioners believe home rule will be undermined if buffer width is specified in the Act. Scientists also had reservations about a uniform guideline, maintaining that it could be used inappropriately in decision-making. Because site sensitivity varies according to soils, topography, and species composition, appropriate buffer protection will vary by site. Furthermore, developers and property-rights advocates would likely organize and lobby against more complicated and stringent regulations. (particularly if they are not supported by scientific evidence).

2) Transfer the burden of proof to developers to prove an area is <u>not</u> a vernal pool ecosystem. This can be done by having a consultant inspect the area in spring during the amphibian breeding season. This alternative eliminates the need to proactively identify vernal pools before a development is proposed. However, stalling the development process for up to ten months on sites that may or may not have a vernal pool would be extremely unpopular with developers and their supporters. Additionally, spring site analysis may not be necessary, as soil scientists and other trained professionals may be able to determine whether a dry area is likely to support obligate vernal pool species, regardless of season.

3) Define vernal pools explicitly. Although there is considerable debate about appropriate definitions, a standard definition for a 'vernal pool' is needed. It may be difficult to focus a definition on physical definitions; however, hydrology and distinctive community assemblages may provide a good starting point.

III. Increasing Education and Outreach

This alternative was supported by most participants since extensive educational mechanisms for children, the public, and commissioners already exist. Previous educational initiatives have been quite successful in raising awareness about, and protection of, vernal pools.

1) Experiential education is probably the best way to teach people about vernal pool ecology, especially during the amphibian breeding season in early spring. Pools can be used as living laboratories for students, providing hands-on, innovative educational opportunities. Vernal pools are an ideal learning site because children and adults can see and engage with an ecosystem in microcosm.

2) Media coverage has already done a great deal to increase people's curiosity about, and concern for, vernal pool ecosystems. Suggestions included newspaper articles and local television news coverage of the amphibian breeding season and out-migration, along with magazine articles on the unique natural history of the ecosystem.

3) Outreach to commissioners is an effective tool to raise awareness and concern for vernal pools. CACIWC publishes a newsletter distributed to all IWWC members. The DEP has produced a widely read brochure on vernal pool science and protection policy. Future outreach could use DEP newsletters and similar publications to provide convenient references for commissioners.

Many respondents believe that DEP commissioner training workshops would not be an appropriate forum for vernal pool education of full schedules. However, these workshops would provide an excellent means to communicate with key decision-makers if the curriculum could accommodate it.

Information could also be presented at vernal pool "symposiums" which could include site comparisons. These could be held on a county-wide scale, rather than on a municipal or state-wide level, to increase the efficiency of outreach.

4) A strategic education/ awareness plan should be developed to include both general awareness-raising strategies for a diversity of audiences as well as technical support opportunities for land-use planners at various levels. Clear outcomes or key messages should be developed for each audience. Fortunately, there are many excellent resources available for educational use, so there is little need to develop new materials. Connecticut also has a strong and diverse network of formal and informal science education organizations that could be an important resource (e.g., the Connecticut Amphibian Monitoring Project). The primary focus should be to use these existing resources to achieve the determined awareness/ technical support/ education needs. A task force approach could help catalyze this effort.

IV. Increasing Ecological Research

This alternative relies on access to funds and the availability of professional researchers, many of whom may be unable to assume new responsibilities. Many scientists in southern New England have conducted research on vernal pool ecology and could assist in directing future projects toward conservation and policy needs.

1) There is a clear need to gather additional scientific data concerning various aspects of vernal pools. This research should focus on information that will help guide strategies for management and help to further our understanding of the function of vernal pool ecosystems and their relationship to the surrounding upland areas. Important research topics include:

a) Amphibian metapopulation dynamics of vernal pool and upland ecosystems (colonization, extinction, source, sink, genetics, barriers to connectivity, site fidelity of breeding adults, juvenile dispersal etc.);

b) Upland habitat use by adults/ juvenile amphibians including migratory distances, fidelity to routes, and the effect of topography on migration. The application of radio-telemetry techniques with *Ambystoma* salamanders has

only recently become feasible and with it the ability to answer these and other questions;

c) The impact of mitigation measures on amphibians including the success of cape cod style curbing, and various sized buffer zones;

d) The impact of road mortality on amphibian populations and a review of other potential impacts such as silt fencing;

e) The use of vernal pool habitats by non-obligate species including mammals, birds, invertebrates, reptiles and non-breeding amphibians;

f) The role of vernal pools in supporting the forest food web;

g) The effects of various levels of fragmentation on vernal pool species diversity (all taxa) by looking at each species' tolerance to disturbance;

h) Potential successional changes in pools over time;

i) Vernal pool creation. Although artificially created vernal pools have provided suitable breeding habitats for amphibians, at least anecdotally, it remains questionable whether artificial pools could replicate all the biotic and abiotic components of a naturally occurring ecosystem. In particular, it may be difficult to replicate natural drainage patterns.

Directing resources toward these research priorities might require a cooperative effort involving Universities, The Nature Conservancy, the Department of Environmental Protection, and other organizations. It may be effective to develop a research task force consisting of representatives from these organizations to recruit graduate students, interns, and consultants to focus on specific research needs. This task force might also serve as a "clearinghouse" for research findings and a link to other educational efforts.

V. Increasing Protection without Changing State Regulations

Most participants supported the use of non-regulatory approaches to improve vernal pool protection in Connecticut. Below are some of the innovative approaches that were suggested to improve vernal pool protection.

1) **Evaluate protection measures needed for vernal pools on a case-by-case basis** rather than producing a "cookbook" approach. Site-specific protection measures are necessary due to the great variation of vernal pool sites. Specific regulations will vary dependent on soils, topography, and proximity to roads. Some general guidelines, however, might include:

a) Avoid modifications to pool topography and drainage, and

b) Maintain the forest floor of vernal pool uplands as amphibian habitat without migratory barriers.

Roads may increase the risk of predation for amphibians that have to follow the trail as they seek an alternate route. Soil disturbance in the buffer zones should be minimized and rutted skid trails should be smoothed over at the completion of forestry operations. Forestry operations should also avoid pools during breeding season. For more guidelines on forestry practices around vernal pools, refer to the University of Connecticut Cooperative Extension System booklet *A Guide to the Identification and Protection of Vernal Pool Wetlands of Connecticut.*

2) Support open-space initiatives pending in the state legislature to help municipalities raise funds with which to purchase natural areas of high priority. Vernal pool ecosystems are one of the biological communities that warrant protection against habitat fragmentation.

3) Protect intact landscapes rather than isolated pools that may suffer attrition of species diversity and habitat quality over time. Since landscapes are dynamic, there must be an appreciation of the fact that some vernal pool ecosystems may be lost or created naturally. Greater protection of a diversity of vernal pool types throughout Connecticut should help to buffer species populations from these natural changes.

4) Build partnerships. Significant partnerships have already been established between scientists, consultants, planners and commissioners. Some developers and landowners have developed partnerships with consultants and commissioners, although these groups are more likely to resist conservation in favor of property rights. Municipal leaders and commissioners throughout Connecticut can learn from one another's knowledge and experience.

VI. Increase Identification and Verification of Vernal Pools.

This alternative was seen as crucial by some and unnecessary by others. Without knowledge about where vernal pools exist, these ecosystems are much less likely to be considered and protected. Issues of private property rights and inadequate municipal resources allocated for proactive planning would be considerable hurdles to implementing some of the following suggestions.

1) Proactive identification of vernal pools through the use of aerial photos can be complemented with site visits during spring breeding season. This could be done within each municipality or at the regional or state level. Commissions may either hire consultants or complete a comprehensive survey independently over a longer time. Such tasks can be expensive, but if vernal pools are known and prioritized, towns will likely be able to reduce conflicts and polarization with developers. Furthermore, developers can design site-sensitive plans from the outset, thus reducing the risk of having their plan rejected during the review process. Proactive identification using aerial photos increases regulatory certainty by guiding development toward the least ecologically sensitive areas.

2) Ground-truth on a project-by-project, not town, basis. This would save money by reducing the labor-intensive surveys described above. Spring site visits can help determine which vernal pools protect particularly valued resources. A walk around the pool and its surrounding habitat should determine connectivity with other pools and identify potential migration routes. Issues of trespass with neighboring landowners may complicate this.

3) Ground-truthing of vernal pools should be done by trained individuals. Scientists, consultants, or trained commissioners bring more credibility to the identification process than school children. On the other hand, high-school "certifiers" trained in species identification are enthusiastic and readily available. If they can gain local support, student groups can be effective and efficient. Such groups are used in Massachusetts.

4) Dry season identification of vernal pools should be improved. Currently, it is difficult to identify dry vernal pools based on their soils, waterlines, or vegetative indicators. These identification methods should be made more reliable and published by the DEP. This will ensure uniform protection and identification across municipalities.

VII. Incorporating Vernal Pools into Zoning and Land-Use Planning

Zoning and land-use planning are highly polarized and controversial issues in many towns, and the level of proactive planning varies widely across the state. Mechanisms for incorporating vernal pool considerations into planning could include outreach techniques similar to those used to educate commissioners.

1) Prioritize the protection of unfragmented vernal pools rather than individual pools alone. Planners should use ecological criteria to evaluate the importance of the site. Some vernal pools may be sacrificed if their priority value is low, while high-priority sites can be incorporated into the ten-year municipal conservation and development plans. The plans should be reviewed periodically to adapt to landscape-level changes.

2) Draft conservation and development plans that consider watershed boundaries as well as traditional political boundaries. Vernal pools that are higher in the watershed, especially on ridge tops, tend to be less polluted than those that are located lower in the watershed. This may be an important consideration when prioritizing vernal pools for municipal protection. On the other hand, towns may want to protect a range of vernal pool types, including both upland and lowland areas.

3) Allow for flexibility and creativity on the part of developers. Conservation easements could be sold or donated to the municipality, a

local land trust or environmental group to provide protection for vernal pool ecosystems. In exchange, property owners would receive tax breaks. Development could be clustered on one section of the property while more ecologically valuable areas would remain undisturbed.

4) Mitigate development impact to migrating amphibians by using Cape Cod curbs along roads whenever possible. These curbs allow for amphibians to pass because their sides are angled at 45 rather than 90 degrees. Cape Cod style curbing also prevents the funneling of water and debris that often sweeps amphibians into storm drains. These are not significantly more expensive than regular curbs.

5) Develop a landscape-level approach to planning. There is a need to broaden thinking beyond preservation of the pool and its immediate surroundings to a larger landscape approach. To be effective, vernal pool preservation should be integrated into open-space planning at the local, regional or state level. At the state level, a hierarchical approach employing watersheds or ecological regions as a base level to focus efforts on preserving large land tracts might be used. It may be appropriate to establish a goal of preserving large, unfragmented tracts of a particular size. The appropriate size can be determined by improving research on the fragmentation impacts of roads, power lines, and other development activities. This state-wide approach would result in the preservation of intact vernal pool ecosystems that are representative of Connecticut's overall ecological diversity. It is also important to integrate vernal pool protection within open-space planning at a municipal level. The focus should be on preserving large tracts of land rather than a "patchwork" approach. The use of GIS technology could facilitate such analysis.

Recommendations

In this section we propose steps to continue the momentum of interest in vernal pool protection that has been building over the past few years.

Policy selection and implementation for land-use planning occurs at both the municipal and state level in Connecticut. Because of this division, changes in vernal pool protection strategies can take place within state government, as well as on a local level.

Work at the state level is critical for a more cohesive network of vernal pool regulations. State Conservation and Development plans could be amended to distinguish vernal pools from other types of wetlands, thus increasing awareness. Vernal pools could also be identified as state 'critical habitat,' allowing for increased protection from degradation or development. Finally, the state should continue to provide guidance and technical support concerning vernal pool identification and protection to local IWWCs and Conservation Commissions.

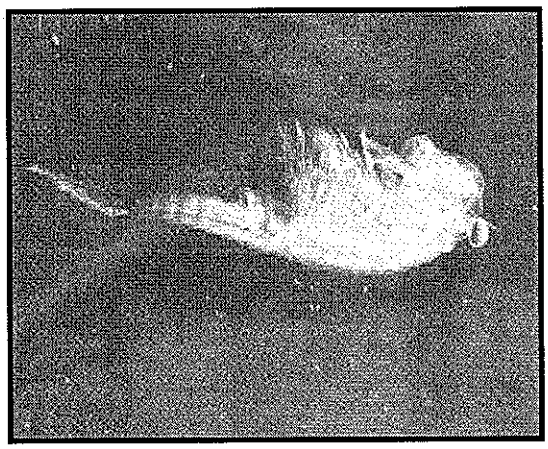
To better coordinate protection across town boundaries, some form of linkage between vernal pool interest groups is recommended. This 'vernal pool association' could take a number of different forms. The group could be structured as a formal organization with periodic meetings, exist as a series of loosely connected 'committees' focused on various vernal pool issues, or simply be a contact list of interested people and organizations to whom questions could be directed. Although the ultimate form of this group is flexible, the need for its existence is not. Without a 'vernal pool association,' the momentum for regulatory improvement will likely remain unfocused and only affect local issues.

Although we believe that an over-arching association is vital, we also recognize that conservation and development planning occurs at various levels of intensity across the state. Rather than solely advocating for the selection of policies at the state level, we also recommend that local decision-makers review the above alternatives, evaluate them in relation to their local context, and select the best strategies to apply for vernal pool protection in their municipality.

Local planners may decide to work with existing regional, state and national resources that support resource protection. If local funding for vernal pool identification, open-space acquisition or conservation easements is lacking, municipalities may choose to share resources with neighboring towns. Neighboring commissions may provide an important source of information, technical expertise, and enthusiasm.

To this end, we recommend that town planners, conservation commissioners, and IWW commissioners prevent conflicts with developers and private property owners by organizing a local focus group to address the following issues:

1) Assessment of vernal pool protection at the municipal level. The focus group should determine if the status quo is acceptable to environmentalists, developers, landowners, and the local government. If the group opts to change existing policy, it should aim to identify any common interests that are shared by the different participants. For instance, members can work together to improve the quality of life for town residents, or enhance local enjoyment of natural resources.



Fairy Shrimp

2) Education, outreach and partnership building. If vernal pool ecosystems are being fragmented or destroyed, the focus group should determine the root causes of degradation in their municipality. The group should identify target audiences for an education campaign or outreach effort. Groups could foster connections with town planners or commissioners who have designed relatively successful resource planning processes with diverse participation. Such successful examples can be used as prototypes for

other municipalities to improve local protection of vernal pool ecosystems.

3) Strategies for vernal pool identification and prioritization. Connecticut is overflown for aerial photographs every five years when the trees are leafless. Although vernal pools may not be easily evident, a trained eye can detect them with reasonable accuracy.[10] Assessment of the pool's ecological value will require ground-truthing in the spring to conclusively determine species occurrences and habitat quality.

4) Land-use planning and zoning alternatives. Developers, Homebuilders' Associations, consultants and institutions such as the Pace University Land-Use Law Center can provide creative alternatives for land-use planning and zoning.

We strongly recommend that the focus groups include representation from the following categories:

a) Scientists, consultants, and environmental advocates;
b) State level representation from the DEP and Natural Resource Conservation Service;
c) Local government representatives, including commissioners, town planners, town engineers and park department employees;
d) Developers and property rights advocates.

Although it may be politically and logistically difficult to coordinate involvement from each of these categories, a focus group will be more effective if it includes representatives from all constituencies. It is important that all members are flexible, willing to negotiate, and share a commitment to the overall process of vernal pool protection.

If the process is in danger of being dominated by special interests rather than working toward a common goal, we recommend appointing a neutral and trusted facilitator to guide the focus group toward an agreement on acceptable vernal pool protection strategies.

If no agreement seems likely, it may be beneficial to begin the process by having the group explicitly define local problems with vernal pool protection, and use this to identify a shared goal. By continually refocusing on the agreed-upon goal, the group should be able to determine some common ground and use that as a foundation for discussion and negotiation.

A town may choose to implement this kind of proactive planning activity as an integrated part of an existing conservation and development planning process. Alternately, towns may choose to organize a vernal pool committee separately in order to remain task-focused. Regardless of the group's structure, the participation of interest groups in the planning process should result in vernal pool protection strategies that reflect consensus as well as conservation.

[10] In fact, consultants or other professionals have used aerial photographs to predict vernal pool occurrence with a 90% accuracy.

About the Authors

All three researchers are Master's degree candidates at the Yale University School of Forestry and Environmental Studies. Our common interests include ecologically-appropriate development, conservation policy, and the legal aspects of environmental protection. We are also interested in improving protection for threatened species and the ecosystems in which they live. In addition, Evan Preisser was conference coordinator for the vernal pool conference series "Our Hidden Wetlands: Vernal Pools in Connecticut".

This research was funded through a Geoffrey C. Hughes Foundation grant. The work was conducted under the supervision of Professor Tim Clark and Emly McDiarmid, the Director of the Center for Coastal and Watershed Systems. The Center for Coastal and Watershed Systems allowed the use of their facilities during the research.

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The pictures within this report were taken from the 'Wicked Big Puddles' curriculum and poster prepared by Leo Kenney.

Additional References

Colburn, E.A., Ed. 1991. A Citizen's Guide to Protecting Vernal Pools. Massachusetts Audubon Society. 107 pp.

Childs, N. and E. Colburn. Vernal Pool Lessons and Activities. Massachusetts Audubon Society. 58 pp.

DeGraaf, R.M. and D.D. Rudis. 1986. New England Wildlife: Habitat, Natural History, and Distribution. USDA Forest Service Gen. Tech. Rep. NE-108. 491 pp.

Donahue, D.F. A Guide to the Identification and Protection of Vernal Pool Wetlands of Connecticut. University of Connecticut Cooperative Extension Program. 18 pp.

Downer, A. 1992. Spring Pool: A Guide to the Ecology of Temporary Ponds. New England Aquarium. Boston, MA. 57 pp.

Klemens, M.W. 1993. Amphibians and reptiles of Connecticut and adjacent regions. State Geological and Natural History Survey of Connecticut. Bulletin No. 12. 318 pp.

Kenney, L.P., Ed. 1997. Diving into Wicked Big Puddles: An Educator's Resource Kit for the Study and Teaching of Vernal Pools. Vernal Pool Association. 45 pp.

---. 1995. Wicked Big Puddles: A Guide to the Certification and Study of Vernal Pools. U.S. Government Printing Office. 58 pp.

Smith, H.M. 1978. Amphibians of North America: A Guide to Field Identification. Golden Press.

Center for Coastal and Watershed Systems 203 432-5603

CT Soil and Water Conservation Districts

Fairfield County	203-744-6108
Hartford County	860-688-7725
Litchfield County	860-626-8258
Middlesex County	860-345-3219
New Haven County	203-269-7509
New London County	860-887-4163
Tolland County	860-875-3881
Windham County	860-774-0224

Connecticut Department of Environmental Protection

Inland Water Resources Division	860-424-3706
Wildlife Division	860-424-3011
Forestry Division	860-424-3630

Connecticut Cooperative Extension Service 860-486-5125

Connecticut Department of Agriculture 860-566-4845

USDA Natural Resources Conservation Service 860-487-4011

US Army Corps of Engineers

Information	617-647-8111
Regulatory Assistance	800-343-4789

US Environmental Protection Agency

Headquarters - Office of Wetlands, Oceans, and Watersheds	202-260-7166
Region 1 Public Information Center	617-565-3420

MINUTES

DECEMBER 1, 2009

Inland Wetlands and Watercourses Meeting

INLAND WETLANDS AND WATERCOURSES AGENCY
MINUTES OF A REGULAR MEETING
TUESDAY, December 1, 2009

A Regular Meeting of the Enfield Inland Wetlands and Watercourses Agency was held on Tuesday, December 1, 2009 in the Council Chambers, Enfield Town Hall, 820 Enfield Street, Enfield, Connecticut.

MEMBERS PRESENT:	Douglas Maxellon, Chairman Joseph Albert, Alternate (seated) Karen Camidge Robert Lemay Jo-Marie Nelson Brian Peruta Patrick Szczesiul, Alternate (seated)
MEMBERS ABSENT:	Robie Staples
ALSO PRESENT:	Katie Bednaz, Wetlands Agent Susan Berube, Recording Secretary

REGULAR MEETING

1. Call to Order: The meeting was called to order by Chairman Douglas Maxellon at 7:00 p.m.

2. Roll Call: Present were: Chairman Maxellon and Agents Albert, Camidge, Lemay, Nelson, Peruta and Szczesiul. Also present were Katie Bednaz, Wetlands Agent and Susan Berube, Recording Secretary.

Agents Albert and Szczesiul were seated as full voting members for this meeting by Chairman Maxellon.

3. Pledge of Allegiance: The Pledge of Allegiance was recited.

4. Executive Session
(Matters regarding specific employees, pending litigation, acquisition of real estate and / or matters exempt from disclosure requirements): None.

5. Public Participation - Issues of concern not on the agenda: None.

6. Correspondence: The following items of correspondence were received:
   a. Public Act 09-181 Correspondence from Town Attorney's Office regarding IWWA permits issued between 07/01/06 and 07/01/09;
   b. Handouts from DEP Segment III Training on Agricultural Activities

c. 169 Cottage Road Letter
d. 2008 Farm Bill providing information on Conservation Programs
e. Websites of interest regarding IWWA subjects
f. Information regarding Emerald Ash Borer

7. Commissioner's Correspondence: Chairman Maxellon announced the resignation of Jake Keller due to his appointment to the Town Council.

a. Site Visit Updates: Agent Keller's previously assigned sites were distributed among the remaining Agents.

Agent Camidge will now check on Five Guys Restaurant on Elm Street and PetSmart on Hazard Avenue. Agent Albert will check on Sharp Street; Agent Lemay will check on Camerota's on Shaker Road, Agent Nelson will check on Ryan Brady Enterprises and Chairman Maxellon will check on Washington Associates on Brainard Road. Ms. Bednaz will update the list and include it in packets for the Agency's next regular meeting.

Chairman Maxellon requested that Ms. Bednaz provide a reminder to the Agency in the spring regarding a visit to the green roof project in Windsor.

Chairman Maxellon also noted that the PZC has started a committee to review their procedures. He would like to see how they decide to proceed on this and then consider making similar changes to the IWWA regulations. He asked for 2 Agency member volunteers to meet with the PZC committee at a later date.

Ms. Bednaz explained a situation that sometimes arises for small projects. A resident is building a small deck on his property on Meadowlark. The entire cost is approximately $700. The cost of building, zoning, PZC and IWWA permits is $270. Considering the small cost of the project, the cost of the permits seems disproportionately high.

Of the $270, $130 are IWWA related fees. $60 is the State's fee and $70 is for the IWWA application. Ms. Bednaz asked if the Agency would like to consider waiving its' fees for small project such as this. The State's fee of $60 per application cannot be waived. The Agency could decide to cover this cost through the Town's budget or continue to charge this to the applicant.

She added that this particular project is on a flat area. It must be permitted because of its' proximity to wetlands but will have very little impact.

She added that while it would be nice to waive the fees, event he current $70 will not cover the cost of the legal notice which is approximately $90.

Agent Nelson asked why a legal notice is required.

Ms. Bednaz replied that any decision is required to be published, by State Statute.

Chairman Maxellon stated that the Agency members could choose to waive the fees for this particular application and then go on a case by case basis or continue to require that fees be paid by the applicant for all applications, regardless of size.

Agents Nelson and Camidge felt that a precedent should not be started at this time.

Ms. Bednaz spoke of the need to be consistent.

Agent Albert also felt that it would be unwise to start a precedent and felt that it would not be fair to past applicants who have paid their share.

Agent Peruta felt that a decision should not be made at this time to waive fees. The amount does seem excessive but changes should not be made now. He would like to bring this discussion up again when application fees are discussed at a later date.

It was the consensus of the Agency members not to waive fees at this time.

8. Approval of Minutes -November 17, 2009: A motion was made by Agent Nelson and seconded by Agent Camidge to approve the minutes of the meeting of November 17, 2009 as presented.

9. Wetlands Agent Report: Ms. Bednaz presented a brief, verbal report. She noted that she will add verbal accompaniment to her escarpment power point presentation that will be aired on E-TV. The program will run before or after some town meeting broadcasts.

Ms. Bednaz reported that the owners will repair the erosion issues at 604 Enfield Street. They will also remove any sediment that went down the slope.

She also noted that Agent Peruta has been working on information that will help make electronic packets more feasible and user friendly. This will be a large undertaking and funding will be required.

Agent Peruta asked what the criteria is for an applicant to be required to return to the Agency for a modification of permit.

Ms. Bednaz explained that she, as Agent for the IWWA, reviews changes to plans. If either she or the majority of members are not familiar with the original project, it would come back before the Agency. If changes are

minor, such as moving limits of pavement 3 or 4', she can approve it without a full permit.

If changes are substantial, such as changing an outlet on a catch basin or changing the size or location of lots, or moving a roadway, these require a full modification permit whether they are in the upland review are or not.

She added that the Agency, in general, leaves these decisions up to the Agent's judgment as to whether or not a full modification permit is required.

Chairman Maxellon added that Ms. Bednaz reports on permit modifications in her Agent's Report and Agents can comment or ask questions at that point.

Ms. Bednaz also stated that it is helpful for the Agents and applicants to read through the Regulations to become familiar with her limitations and to know when an Agent review or full modification permit is needed. The more information that is included in the regulations, the more clear it is for both Agency members and applicants.

Agent Peruta asked if Ms. Bednaz, or the Town is aware of broken drainage pipes on Shannon Drive and Kelly. Large sections of pipe have fallen off, creating large areas of erosion.

Mr. Piya Hawkes, DPW Administrator, stated that his department is aware of the problem, as well as with several other streets. Plans for repair are under design right now.

10. Old Business

a. **IW-529 Marshall & Nancy Butler** - Requesting a permit to deposit soil within the regulated area, which has already been conducted at 8 & 10 Sharp Street (Map 67, Lot 417 & 414). Also requesting to remove a portion of deposited materials from regulated area. Submitted 10/05/09, received 10/13/09, PPE 10/27/09, **MAD 12/17/09**: Ms. Bednaz stated that the applicant is not present. She noted that the applicant does not always understand why the work proposed needs to be done in the manner described.

She added that the applicant is agreeable to the draft conditions of approval and he has no concerns at this time.

The Town's engineer also has no concerns at this time.

Ms. Bednaz stated that the conditions of approval allow for a 2 year permit which can be extended.

The Right of Entry has been signed by the Town.

Standard Condition of Approval #15 will be waived.

Ms. Bednaz also stated that the hay bales have been installed at the toe of the slope but are not yet staked.

A motion was made by Agent Camidge and seconded by Agent Szczesiul to approve IW 529 with standard conditions numbered one through fourteen and sixteen in addition to special conditions numbered 17 through 19.

Agent Albert felt strongly that the hay bales should be staked before the ground freezes this year.

After discussion, Agent Camidge amended her motion to approve IW 529 with standard conditions numbered one through fourteen and sixteen in addition to the following special conditions numbered 17 through 20:

17. All work must be completed between the months of May through September to limit the potential for erosion.

18. All work must be completed with the same growing season as which it was initiated.

19. Upon starting work, all soils must be temporarily stabilized within one week of conducting any soil disturbance activities.

20. Hay bales shall be staked prior to the ground freezing.

Amended second by Agent Szczesiul. Vote was 7-0-0. Reason for approval was to remediate and secure the escarpment slope so that no additional impact to the wetlands will occur.

11. New Business

a. **IW-441.02 - Washington Associates of Enfield, LLC** - is requesting an extension of their existing permit IW-441 proposing to construct a 42-Unit Senior Residential Development (Brainard Gardens) within 100 feet of wetlands. Properties located at 266, 274 and 284 Brainard Road (Map 62 Lot 319 and Map 77 Lots 67 and 68). Submitted 10/14/09, received 11/17/09, PPE 11/15/09, **MAD 1/21/10**: Agent Camidge noted that the PPE date should be 12/02/09, not 11/15/09.

Dana Steele of JR Russo & Associates and John Petronella of Washington Associates represented the applicant.

Ms. Bednaz stated that the new standard conditions of approval have been merged with the original conditions of approval for this permit.

Mr. Steele stated that the applicant has reviewed the proposed conditions of approval and is agreeable to them.

Chairman Maxellon reported that he visited the site on Sunday and while there saw one of the co-owners, Mr. Troiano.

Chairman Maxellon noted that a lot of debris has been removed over the years. There is currently open access to the property and he would like to see access blocked from the Brainard Road side, perhaps by use of a gate.

He also noted that heavy winds cause sand to blow across the road. He would like to see a wind block, perhaps a row of arborvitae to block the wind and sand.

Mr. Petronella stated that the sand pit is on the south ease portion of the property. He cannot understand how the wind can blow so far or be that bad of a condition. He asked if there have been complaints.

He added that he feels that plantings are ridiculous at this point but would be willing to erect a snow fence to deflect sand and also would be agreeable to securing the site by use of cables and a gate and erecting new "no trespassing" signs.

He also added that berms don't stop ATV's because they just go right over them.

Chairman Maxellon replied that he would not push the tree issue but asked that no additional brush be removed from the corner.

Agency members crafted an additional condition of approval, number 26, to address the issue of access to the site.

A motion was made by Agent Szczesiul and seconded by Agent Nelson to approve IW 441.02 with 18 standard conditions in addition to the following, numbered 19 through 26:

19. The 50 foot no disturbance buffer area depicted on sheet 8 of 20 of the plans, shall be maintained by the entity that shall assume ownership of the common properties. It shall prohibit encroachment of unit owners' activities into this area. It shall be included in the management plan and documents transferred from the developers to the entity that shall assume ownership of the common properties. A copy of the final plans must be provided to the Enfield Planning Department before the Agent may sign off on the first building permit. In order to maintain compliance with this permit these documents must be filed with the deeds in the Enfield Town Clerk's Office. Signs, to be provided by the developer, shall be placed along the 50 foot non-disturbance boundary surrounding the wetland. They shall read:

"Environmentally Sensitive Area - No Dumping or Vegetation Removal". They shall be located one (1) every 50 feet along the non-disturbance area;

20. The developer shall employ slow release fertilizers and minimal applications of pesticides and herbicides, as prescribe by the integrated pest management plan (IPM). The management plan prepared for this development shall indicate that slow release fertilizers and minimal applications of pesticides and herbicides, as prescribed by the IPM shall be employed in the maintenance of the property. It shall be included in the documents transferred from the developer to the entity that shall assume ownership of the common properties. A copy must be provided to the Enfield Planning Department before the Agent may sign off on the first building permit. In order to maintain compliance with this permit these documents must be filed with the deeds in the Enfield Town Clerk's Office.

21. The document specifying the responsibilities of the entity assuming ownership of the common property shall include a yearly maintenance schedule for cleaning of catch basins, hoods, dry wells, storm water quality units, road maintenance and removal of winter sands (no salt allowed) from the roads. This must be submitted to the Agent for the IWWA before signing off on any building permits.

22. Snow in excess of that which can be stored on the snow shelf along the edge of the roads shall be removed from the property. The management plan prepared for this development shall expressly prohibit the stockpiling of snow and lawn and yard refuse in the vicinity of units 16 through 24. It shall provide for alternatives such as contracting for removal by truck if need be;

23. No disturbance is permitted as part of this permit within 50 feet of wetlands and watercourse. Construction fencing must be installed along the 50' wetland buffer are to protect this area from any construction activity;

24. The Wetlands Agent will not sign off on the certificate of occupancy for any unit until all associated disturbed areas are temporarily and/or permanently stabilized;

25. All Engineering comments and concerns must be addressed prior the Wetlands Agent signing off on the building permit. If revisions to the plans are required as a result of engineering concerns, the applicant must apply for a plan modification to the Agency;

26. The security of the site shall be maintained from the date of this approval to active construction to prevent dumping and trespassing.

Vote was 7-0-0. Reason for approval was that the project will not have an adverse impact on inland wetlands and watercourses.

b. **IW-532 - Aldi, Inc.** - is requesting a permit to construct a truck dock and associated activities within the regulated area at 25 Hazard Avenue (map 45, lot 8). Submitted 10/30/09, received 11/17/09, PPE 11/15/09, **MAD 1/21/10:** Agent Camidge again noted that the PPE date should be 12/02/09, not 11/15/09.

Galen Semprebon, PE of Design Professionals represented the applicant.

Mr. Semprebon stated that revisions to the plans have been made as requested by Staff. The dumpster pad was moved to the other side of the loading dock. Chain link fencing has been added as have silt sacks and narrative for de-watering. Dates on the plan have been revised.

He also reported that the wetlands have been cleaned of trash and any additional debris in the area of the loading dock will be removed during construction.

Ms. Bednaz noted that Mr. Cabibbo's email of 12/01/09 stated that all of his concerns have been addressed.

Agent Albert asked if the fire department has accepted the updates.

Ms. Bednaz stated that she did not receive any correspondence from them. At their request, the parking has been changed. The dumpster pad was moved in order to provide access to the stand pipes at their request. All of their comments have been addressed.

Any additional comments from the fire department can be addressed by the PZC. It is doubtful that any additional changes requested by them would be significant enough to require a modification from the IWWA.

Agent Nelson asked that the owner of the plaza be informed of her appreciation for the trash being removed from the wetlands.

Chairman Maxellon agreed that thanks are in order and stated that he would like to see the fence repaired, also.

Ms. Bednaz stated that she was informed that the fence should be fixed soon.

A motion was made by Agent Nelson and seconded by Agent Szczesiul to approve IW 532 with the 18 standard conditions of approval.

Vote was 7-0-0. Reason for approval was that the project will not have an adverse impact on inland wetlands and watercourses.

12. New Applications to be Received

a. **IW-533 - Town of Enfield** - is requesting a permit to reconstruct Post Office Road and Town Farm Road beginning on Post Office Road, 175-feet west of Raffia Road and ending on Town Farm Road, 150-feet east of Abbe Road with the regulated area (Map 86 Lots:169, 155, 293, 293, 158, 150, 167; Map 71, Lots: 1, 25, 27; Map 68, Lots: 161, 164, 153, 151, 152, 197). Submitted 11/23/09, received 12/01/09, PPE 12/15/09, **MAD 2/4/10**. Mr. Piya Hawkes, Administrator of DPW, Jeff LeMay and Jane Witherall of Maguire Group represented the applicant.

Mr. Hawkes briefly explained the proposal to reconstruct Post Office & Town Farm Roads, east of Raffia Road, 1.4 miles to Abbe Road.

It will be a full depth reconstruction with 30' wide roadway, 11' lanes and 4' shoulders.

The intersections of Weymouth School Road, Wallop School Road and Abbe Road will be improved.

Three existing drainage systems will be improved and 3 new drainage systems will be added.

A 10' wide bike lane will be added on the north side.

The bridge at the Scantic River will be widened. Rip rap will be added in the stream to protect the abutments from further erosion.

All Rights of Way have been acquired.

There will be a total of 12,000 square feet of impact to the wetlands. A mitigation plan is required by the D.E.P.

The proposed project will affect the leach field located at 97 Town Farm Road so that property will be tied into the Town's sewer system.

It was also noted that there are low levels of contamination along the roadway. A staging area for testing will be set up at the Transfer Station. The soil will be returned to the site if possible and if not, removed from the site.

It is anticipated that the permit from the Army Corps of Engineers will be received by mid February, 2010. Advertising for bids is tentatively set for late December, 2009. Bids would be awarded in April, 2010 with construction to start soon after that.

Agent Camidge asked if IWWA approval is required prior to the bids being advertised.

Ms. Bednaz replied that it is not.

Mr. LeMay explained briefly the proposed drainage improvements. He stated that there is currently little drainage along the proposed project. Any runoff travels to a low point and leaks off the road, creating erosion.

To eliminate this, the 3 existing drainage systems will be improved and three additional systems will be created. The system at Holy Family Church entrance will be eliminated.

This project has been under design for the past 7 to 9 years and has had numerous reviews by D.O.T.

The applicant has met with D.E.P. and the Army Corps of Engineers and incorporated their comments in the current plans.

There will be a grass lined swale on the Hazardville Water Company property. The current culvert is undersized. Adding curbing in this area will redirect water away from the well site.

The bridge will be widened by 8' on the north side to accommodate the bike lane.

The D.E.P. and Army Corps of Engineers require mitigation for wetland impacts. To accomplish this, invasive species will be removed from land owned by Enfield Hunting Club which is located along the Scantic River. The total mitigation area will cover .9 acre, more than what is required. This larger area is being done in order to remove an entire area of invasives; otherwise, the invasives will regenerate quickly in that area.

Ms. Witherell noted that all outlets will have plantings.

Ms. Bednaz asked the Agency if they felt that a public hearing will be required due to public interest and potential for significant impact. She also noted that the road has a high level of traffic and if members visit the site, they should be careful.

Ms. Bednaz also stated that more information on this project is available on the Town's FTP website.

Mr. LeMay stated that there have been at least 2 public information meetings on this project.

Agent Peruta asked where equipment will be stored during the project.

Mr. LeMay stated that it would possibly be at the Transfer Station. He is still working with the Town on this and the stockpile locations.

Agent Peruta asked if chemicals for removal of the invasive species would be stored on site. Mr. LeMay replied that he would find out.

Chairman Maxellon stated that he visited the site on Sunday. He suggested that the Agency hold a site walk on Saturday, December 19, 2009 at 9:00 a.m., weather permitting.

Ms. Bednaz also recommended that members drive by the area prior to the meeting so that they will be familiar with the wetland areas.

A motion was made by Agent Nelson and seconded by Agent Camidge to hold a public hearing on IW 533 due to it being a potential significant impact and for public interest on December 15, 2009 at 7:00 p.m. in the Council Chambers. Vote was 7-0-0.

Ms. Bednaz noted the need to coordinate the closing of the public hearing with the timing of comments coming back from the Army Corps of Engineers.

13. Other Business: A motion was made by Agent Nelson and seconded by Agent Camidge to add the following item to the agenda: "Standard Conditions Discussion". Vote was 7-0-0.

Ms. Bednaz explained that upon close review of the current standard conditions of approval, she found that since condition #17 would include wetlands boundaries, it is actually a duplicate of condition #5.

If a project is never started, the Town is not likely to ever receive the "existing conditions". She feels, after much thought, that condition #5 is not realistic. It could, if the Agency chose, be made part of the application requirements.

Agent Nelson asked what this would entail.

Ms. Bednaz explained that if there is an electronic submission, it can be part of the submission. If that is not appropriate, it would be submitted through a sketch or the Town's GIS.

After a poll of the Agency members, it was the consensus of the Agency that this be added to the application when revisions are made, at a later date.

A motion was made by Agent Camidge and seconded by Agent Lemay to eliminate standard condition #5 and re-sequence the numbers to read one through 17. Vote was 7-0-0.

a. IWWA Fines Ordinance
b. IWWA Fee Schedule

c. IWWA Regulation Revisions: A motion was made by Agent Camidge and seconded by Agent Nelson to table discussion on agenda items 13a through 13c. Item 13c will be discussed at a special meeting of the IWWA scheduled for Thursday, December 03, 2009 at 7:00 p.m. in the Thompsonville Room. Vote was 7-0-0.

d. **Next regular meeting is Tuesday, December 15, 2009 at 7:00PM in the Council Chambers.**

14. Adjourn: A motion was made by Agent Camidge and seconded by Agent Lemay to adjourn the meeting at 8:45 p.m. Vote was 7-0-0.

Respectfully Submitted,

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Jo-Marie Nelson, Secretary

MINUTES

December 3, 2009

Inland Wetlands and Watercourses Meeting

INLAND WETLANDS AND WATERCOURSES AGENCY
MINUTES OF A SPECIAL MEETING
THURSDAY, DECEMBER 3, 2009

A Special Meeting of the Enfield Inland Wetlands and Watercourses Agency was held on Thursday, December 3, 2009 in the Thompsonville Room, Enfield Town Hall, 820 Enfield Street, Enfield, Connecticut.

MEMBERS PRESENT: Douglas Maxellon, Chairman
Joseph Albert (7:16 p.m.) Alternate
Jo-Marie Nelson (7:15 p.m.)
Brian Peruta
Patrick Szczesiul, Alternate

MEMBERS ABSENT: Karen Camidge
Robert Lemay

ALSO PRESENT: Katie Bednaz, Wetlands Agent
Susan Berube, Recording Secretary

SPECIAL MEETING

1. Call to Order: The meeting was called to order by Chairman Douglas Maxellon at 7:10 p.m.

2. Roll Call: Present were: Chairman Maxellon and Agents Albert (7:16 p.m.), Nelson (7:15 p.m.), Peruta and Szczesiul. Also present were Katie Bednaz, Wetlands Agent and Susan Berube, Recording Secretary.

3. Other Business:
   a. IWWA Regulation Revisions:

Agency members reviewed, compared and discussed the introduction and sections one, two and three of the Enfield IWWA Regulations (last revised 2005) and the IWWA Model Municipal Regulations (last revised May 1, 2006).

After review of the introduction and Section I of the current Enfield IWWA regulations, it was the consensus of the members that no

changes to the introduction and Section I are necessary at this time.

Members discussed and compared the "Definitions" section (section 2) of the regulations.

In order to facilitate the comparison and discussion, Agency members decided to adopt the changes made in the D.E.P. model and keep all definitions that are currently in the Enfield IWWA Regulations.

A definition for "Agent" would be added, noting that it is the same as "designated agent".

Definitions for "restriction" and "covenant" are to be added as well as clarification for "conservation easement".

Also to be added is the definition of "abutter". Agency members held discussion on what should be considered an abutter. Technically, it is adjacent properties that touch the subject property. However, often property owners located across a road are also interested in and may be affected by applications for a subject property.

Agency members discussed using a certain distance from the activity or boundary of land.

Ms. Bednaz also noted that sometimes very large parcels (100+ acres) have activity on only a portion of the property and would not directly affect any abutters.

Agent Nelson suggested that all direct abutters as well as those within 500' of the subject property should be notified.

Ms. Bednaz will research the regulations on this for several other area towns and provide several possible drafts for Agency review.

Ms. Bednaz suggested striking the definition of "farming" from the regulations and reference the Connecticut General Statutes so that it will always be up to date.

"License" will be added as per state statute.

Ms. Bednaz will look into "Prudent" for clarity.

Ms. Bednaz also noted that it is a resident's or applicant's responsibility to know the Town's regulations and the owner's

limitations.

Members discussed the Town's definition of "regulated activity", item 3 and that it should be changed to address escarpment slopes and the consultant's recommendations.

Ms. Bednaz noted that at this time, the Town would need to hire a Geo-technical Engineer for applications involving escarpments.

Item 4, also under "regulated activity" should have reference of "25% grade" removed and changed to the consultant's recommendations.

"Escarpment" and "slope" are also to be added, with definitions.

After discussion, it was decided that items 3 and 4 would be left as they are; item 5 will be changed to agree with the recommendations from Haley and Aldrich, consultants for the Town on escarpment slopes.

A definition for "perennial watercourse" will be added.

Ms. Bednaz suggested that the Agency consider enlarging the review area for vernal pools in order to better protect them and the wildlife that require them. The current regulations don't allow for protection of wildlife in relation to the wetlands.

Chairman Maxellon left the meeting room at 8:40 p.m.

Ms. Bednaz will obtain further information regarding who and what defines a vernal pool as such and what a good buffer is for a healthy pool.

The wetlands definition is to be changed to agree with the D.E.P. update.

Ms. Bednaz noted that the Model Regulations, in Appendix C, have options for the upland review area and asked that Agency members review this for discussion at a later date.

Chairman Maxellon returned to the meeting at 8:50 p.m.

Ms. Bednaz will also provide information for the Agency on riparian corridors.

Agency members briefly discussed Section 3.

Members discussed the issue of holding a public hearing for map amendments.

Ms. Bednaz noted the difficulty in updating the Town's wetland map using the information provided by applicants because it is not always an electronic submission and the scales are often different than the Town's map.

No decision on holding public hearings for map amendments was made at this time.

4. Adjourn: A motion was made by Agent Peruta and seconded by Agent Nelson to adjourn the meeting at 9:03 p.m. Vote was 3-0-0.

Respectfully Submitted,

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Jo-Marie Nelson, Secretary